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2014-07-09

DOP eServer User Manual



DOP eServer User Manual

www.deltaww.com

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About this Manual...

User Information

Be sure to store this manual in a safe place.

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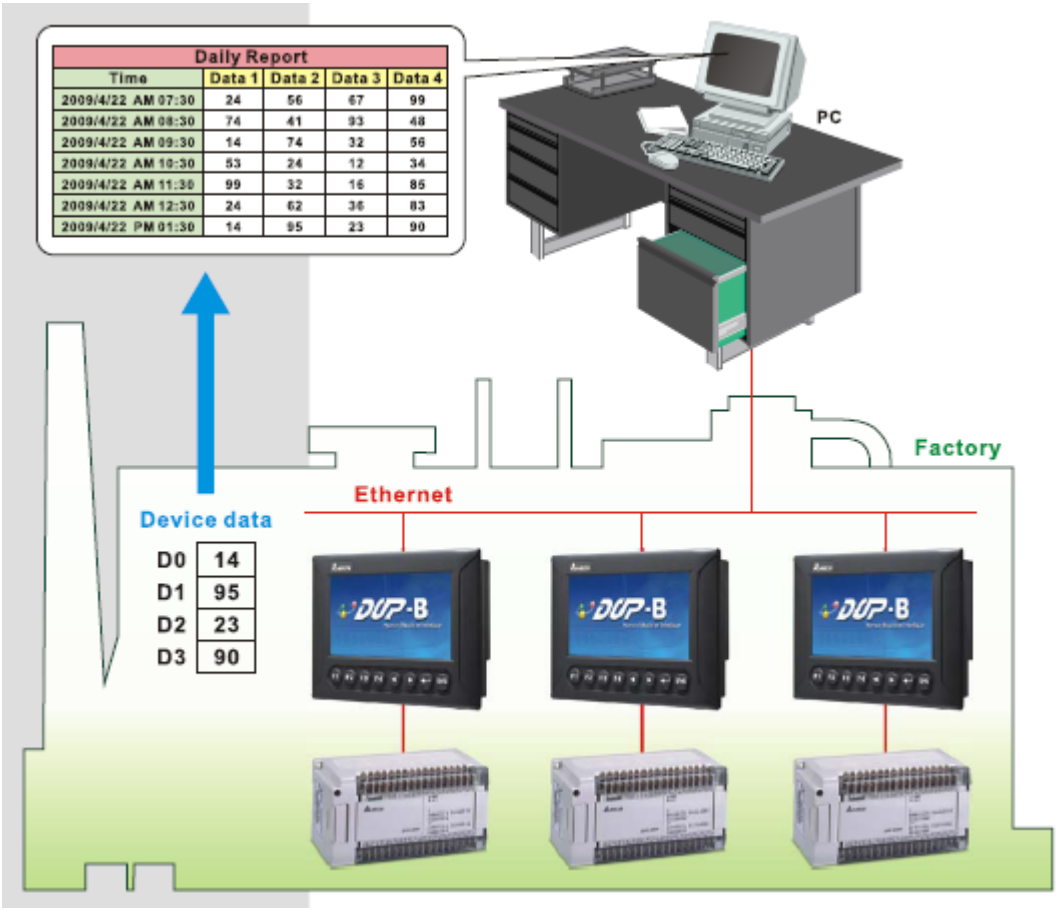
Please include the Name of Manual and the Issue Version both shown as below when communicating with us regarding this publication.

Date	Issue Version	Description of Changes
2010/10/23	eServer-001	1. First Edition
2011/03/14	eServer-002	1. Add Time stamp of Format Cells explanation (P4-7) Add CH08 Database Access 2007 at Windows7 explanation
2012/07/19	eServer-003	1. Fixed ODBC setting interface for Wizard. 2. Fixed Excel setting interface for Wizard. 3. Fixed Tools > Options > Disconnect interface of function menu. (P3-10) 4. Fixed Screen Editor example to DOPSoft example. 5. Add Tool > Options > Environment interface of function. (P3-10) 6. Add Excel **Overwrite the file when saving** and **Other setting** function. (P4-16~P4-20) 7. Add **Recipe Auto Refresh on Startup** function. (P11-4~P11-5), (P12-5, P12-11, P12-16~P12-17, P12-19, P12-25, P12-27~P12-28, P12-32~P12-33)
2014/03/02	eServer-004	1. Add Chapter 10 Writing Data in SQL Server 2005 description.

Chapter 1 Introduction

1.1 eServer Data Collection Software

eServer is a PC software used to help the customers collect and transfer production information and history data directly from production site to a PC in the office via Ethernet. eServer also supports Microsoft Excel (hereinafter “Excel”) software functions, such as formulas, tables and graphs. This allows that the collected data can be saved in user-defined Excel file according to various purposes for the customers to easily and quickly create required production reports. In addition, it also supports ODBC interface which is able to save the collected data to a database for the purpose of management and use in production sites.



1.2 Supported Models

The supported models for eServer Data Collection Software are listed in the table below.

Series	Model Name	Remark
DOP-AE Series	DOP-AE57BSTD	DOP series Extension Ethernet Module, DOP-EXLNHJ1AE is required when using eServer with DOP-AE series HMI product.
	DOP-AE57GSTD	
	DOP-AE57CSTD	
	DOP-AE80THTD1	
	DOP-AE10THTD1	
DOP-B Series	DOP-B03E211	
	DOP-B07E415	
	DOP-B07E515	
	DOP-B08E515	
	DOP-B10E515	
	DOP-B10E615	

1.3 System Requirement

Below are the system requirements to comply with the operating environment of eServer:

Hardware / Software	System Requirement
CPU	Pentium 4, 1.6GHz or greater is recommended
Memory	1GB and above is recommended
Hard Disk	Capacity: 50MB and above
Monitor	Support resolution: 1024 × 768 or higher full-color display.
Printer	Printer compatible with Windows 2000 / Windows XP / Windows Vista / Windows 7
Operation System	Windows 2000 / Windows XP / Windows Vista / Windows 7
Supported Microsoft Office Software	Microsoft Office 2000 Microsoft Office 2003 Microsoft Office 2007

Chapter 2 Software Installation

2.1 eServer Setup

In this chapter, it will introduce general functions of eServer with Windows. The users can use it to design what they want. Detail information for each function will be discussed in the following chapters.

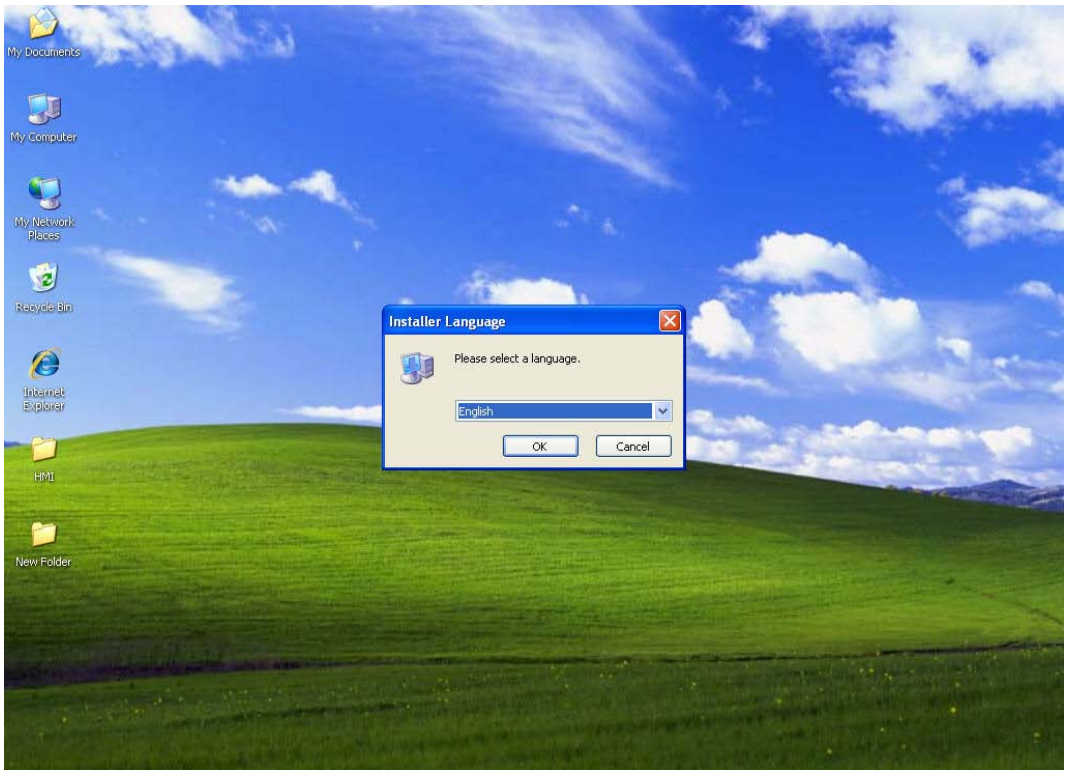
2.1.1 Software Installation

To start the eServer setup, please refer to the following steps:

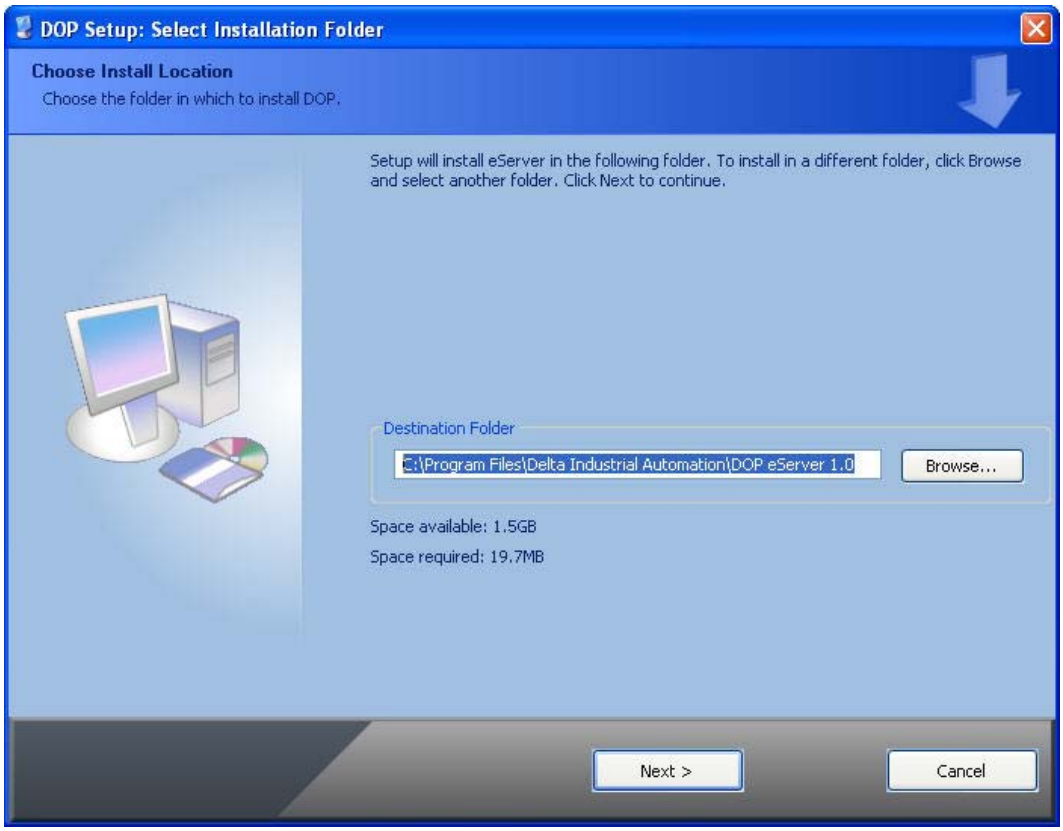
Step 1. Please start-up your computer to Windows 2000 / Windows XP / Windows Vista / Windows 7 system.



Step 2. Execute **setup.exe** from Windows taskbar by clicking **"Start" > "Run"**. After pressing **OK**, the system will setup automatically and the following dialog box will appear for selecting the desired display language.



Step 3. After pressing OK, the system will setup automatically and the users will get the following dialog box to choose destination location.

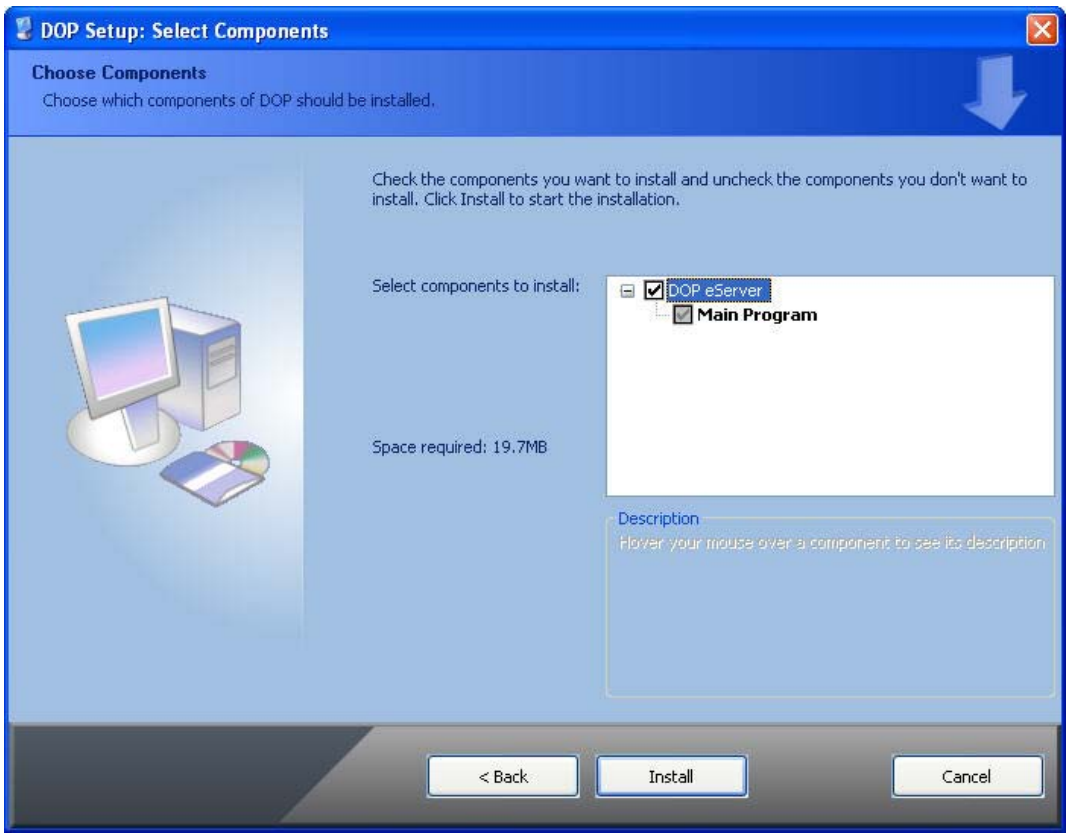


Wlv To select the default directory **C: \Program Files\Delta Industrial Automation\DOP eServer 1.00.xx**, click **Next>** for the next step. Setup will install in the directory indicated in the Destination Directory box at the bottom of the dialog box.

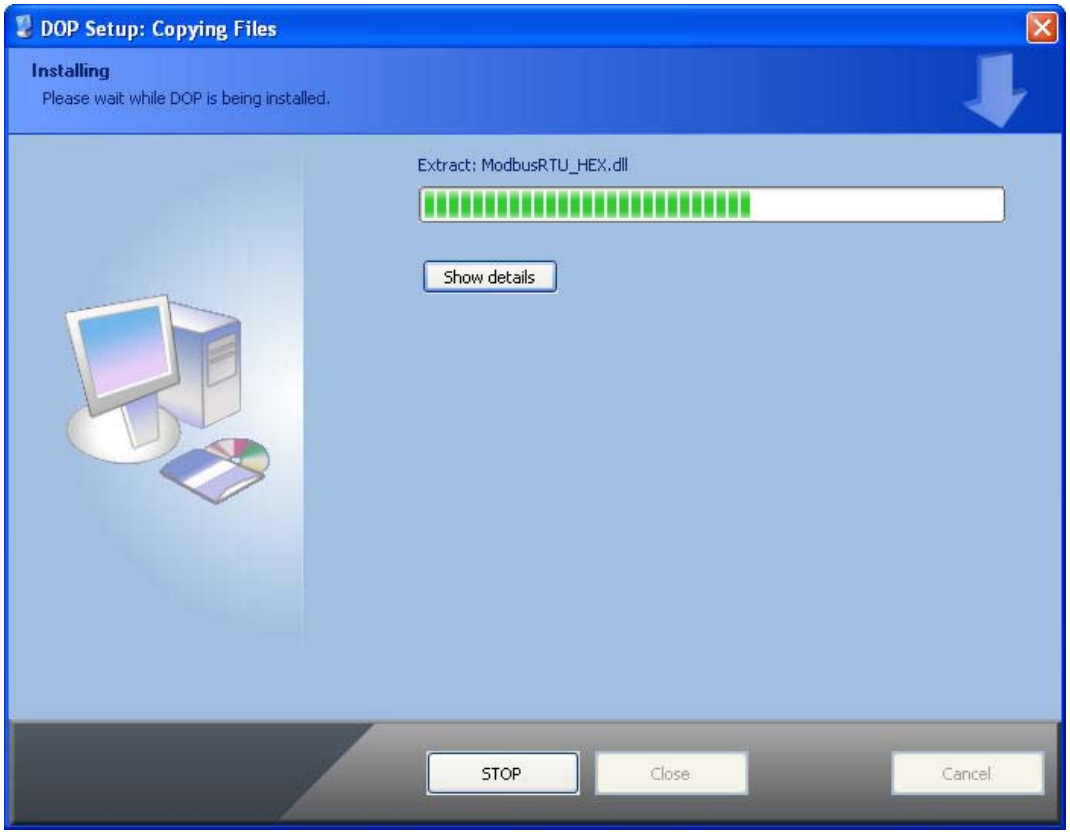
To select a directory other than the default directory, click **Browse**. A list of available directories appears. Highlight the desired directory for the Delta eServer and click **OK**, then **Next>** for the next step.

If necessary, click **< Back** button to take you back through Setup dialog boxes one by one.

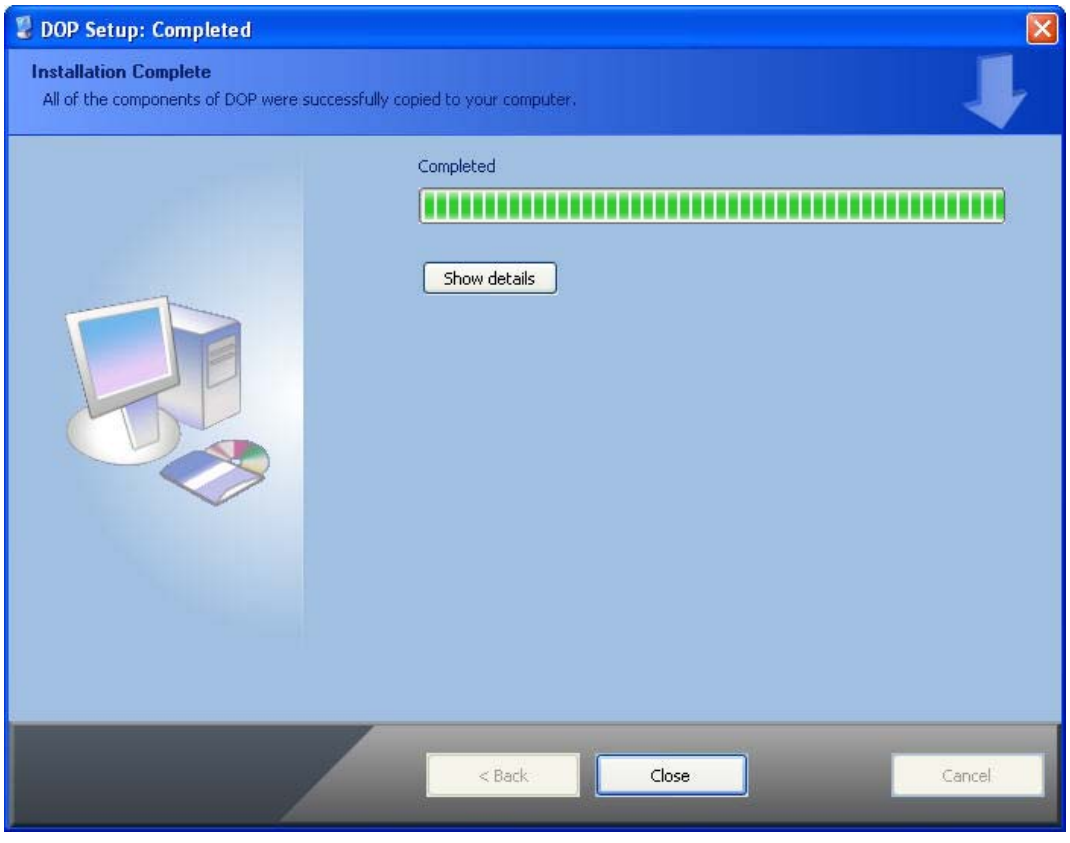
Step 4. After pressing **Next**, the following dialog box will appear and ask the users to select the installation software, i.e. DOP eServer. Then click **Install** button to start DOP eServer installation.



Step 5. The system will start DOP eServer Installation.



Step 6. DOP eServer has been installed successfully. Press **Close** to finish the installation.

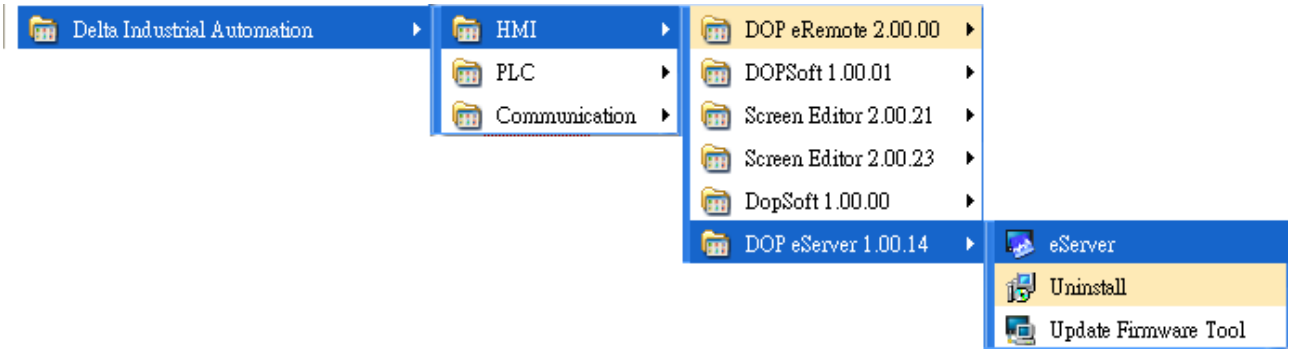


Chapter 3 Before Using eServer

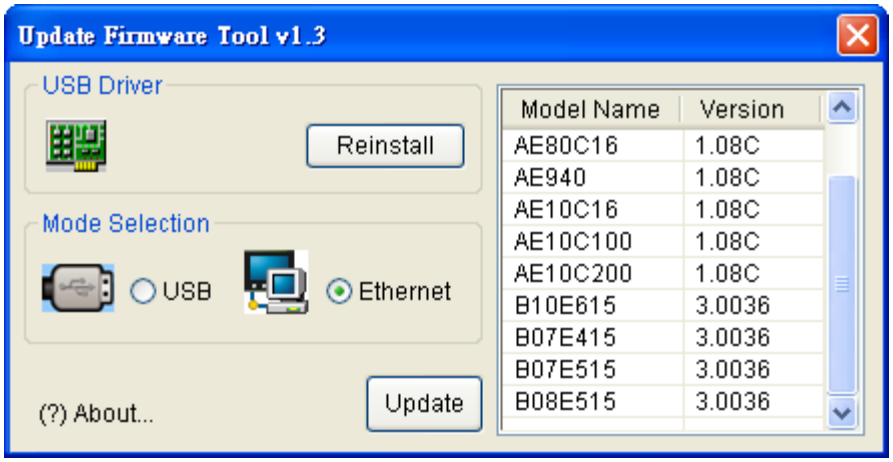
Before using eServer, the users need to update HMI firmware and complete PC and HMI network settings. Please ensure to read the following instructions fully so that the users could understand how to update HMI firmware and complete PC and HMI network settings correctly.

3.1 Update Firmware

Remember to update the firmware before using eServer. To select this function, click **Start > Programs > Delta Industrial Automation > HMI > DOP eServer 1.00.xx > Update Firmware Tool**.



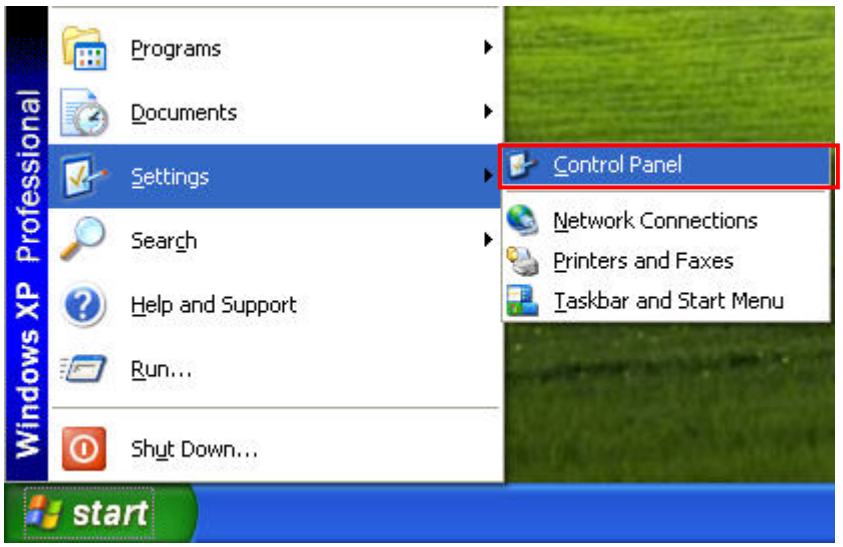
The system will detect if the HMI firmware is the same as the firmware included in eServer. If the HMI firmware is older than the firmware included in eServer, a warning message will pop up to ask for updating the firmware. After clicking **Update Firmware Tool**, the following dialog box will appear for the users to select the communication interface (the default setting is USB driver). Press **Update** button to update HMI firmware automatically. The function of **Update Firmware Tool** is the same as the function of **Update Firmware** provided in eServer (click **Tool > Update Firmware**).



3.2 Networking Settings

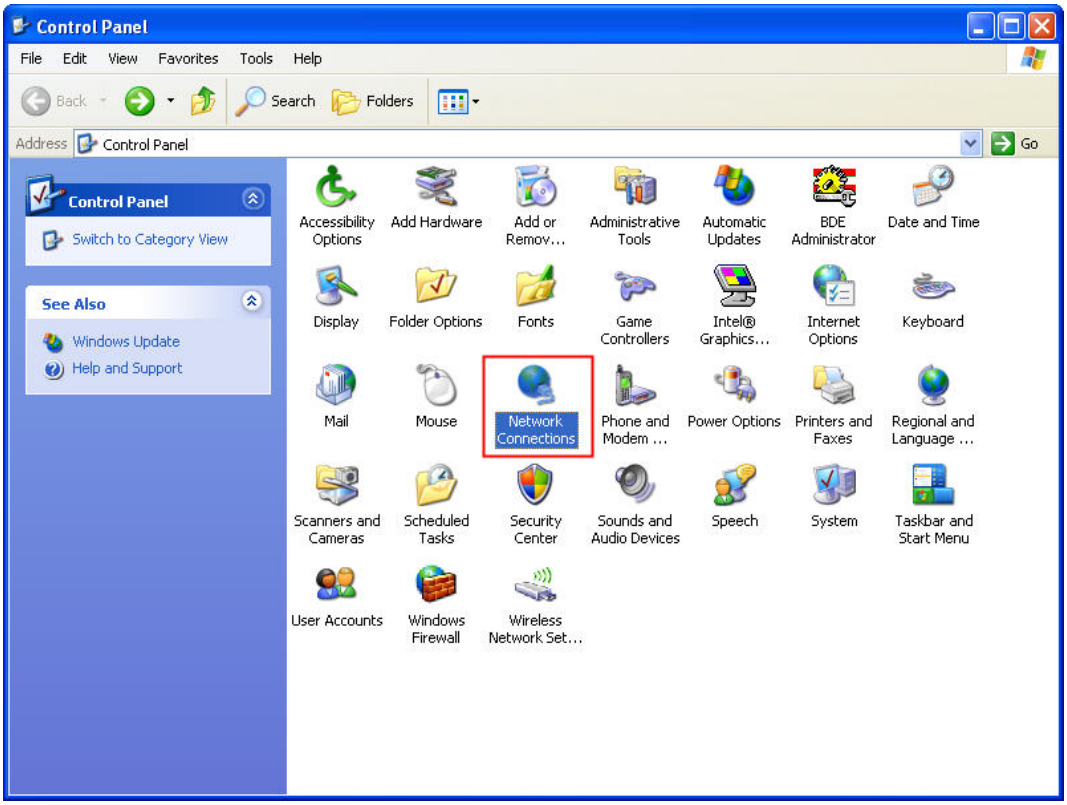
Ensure to observe the following instructions to complete PC networking settings before eServer operation.

3.2.1 Setting PC Network

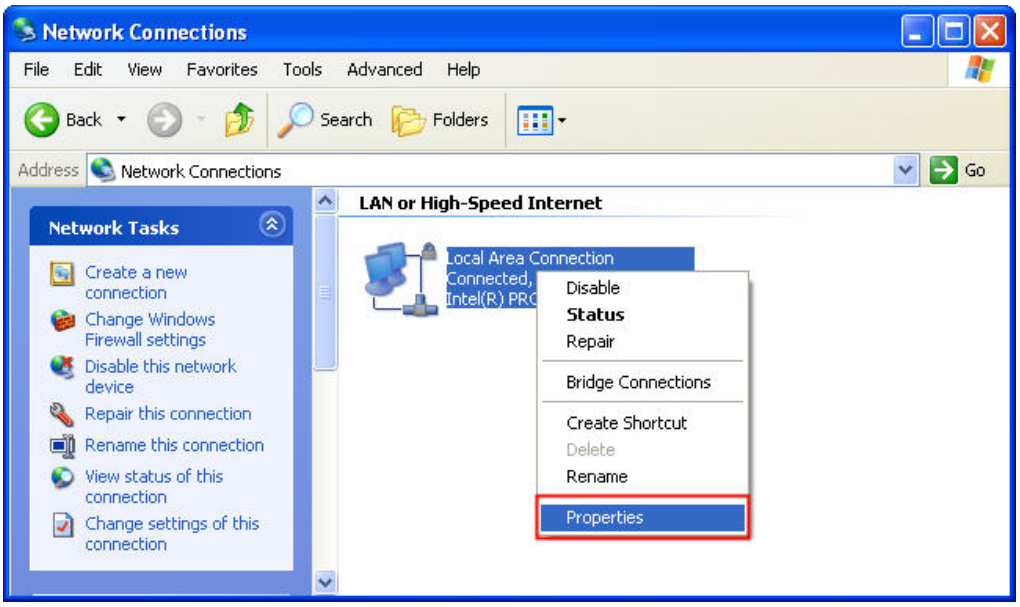


Power on PC and start Windows. Click **Start > Programs**, point to Control Panel, and then select Network Connections (

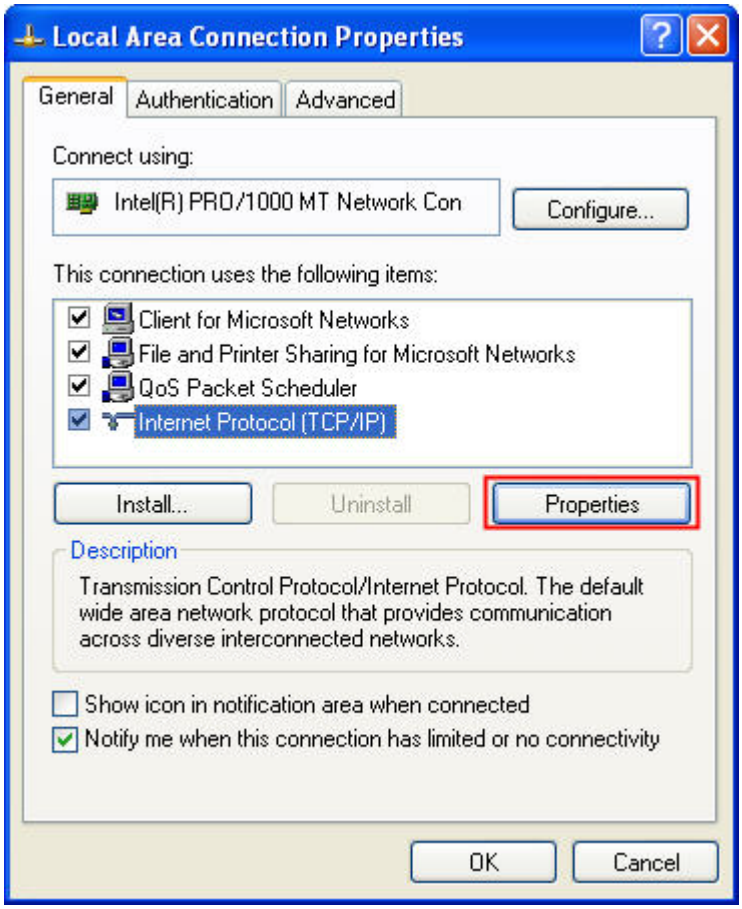
).



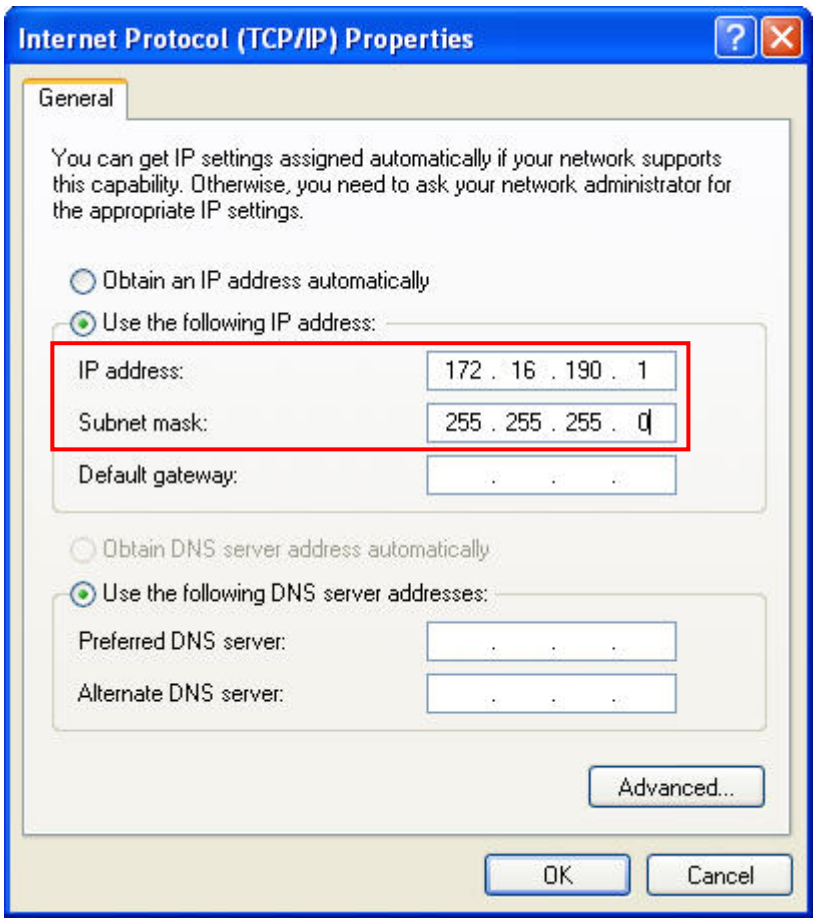
Double-click **Network Connections** icon, the following windows will appear. Right-click the **Local Area Connection** icon, and then select **Properties** from the pop-up menu.



The **Local Area Connection Properties** dialog box will open. Use **General** tab to select **Internet Protocol (TCP/IP)**. Then, press **Properties** button.



The **Internet Protocol (TCP/IP) Properties** dialog box will open. Choose **Use the following IP address** and enter the IP address numbers of the PC into the field of **IP address** and **Subnet mask**.

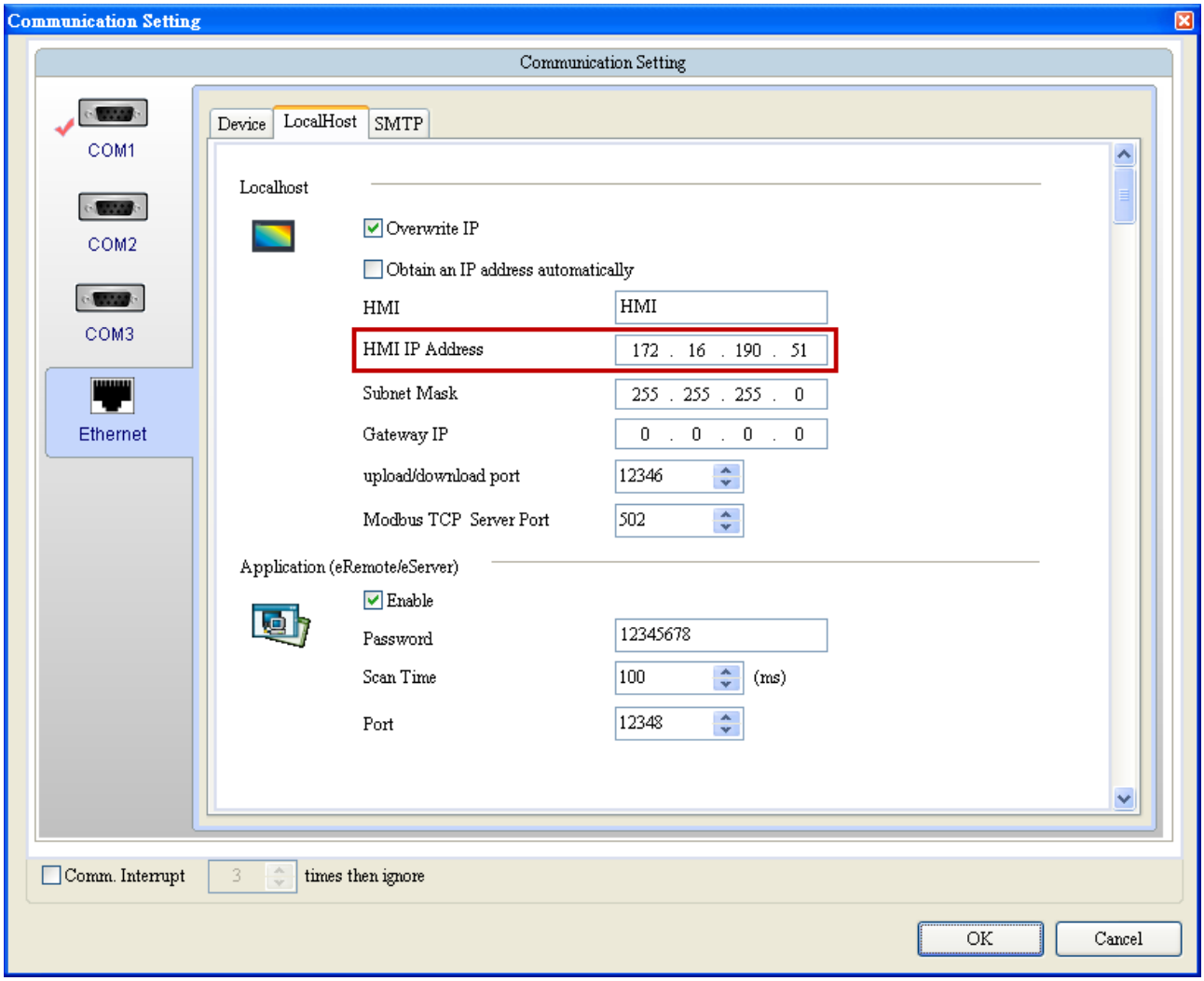


Then, press **OK** button to finish the settings.

Please note that if the IP address numbers of subnet masks of the PC and HMI are different, HMI may not be displayed in the list when finding node.

3.2.2 Setting HMI Network

Start DOPSoft software program and click **Options > Communication Setting > Ethernet > LocalHost**, set HMI IP Address and check the Application(eRemote / eServer) function **Enable.**



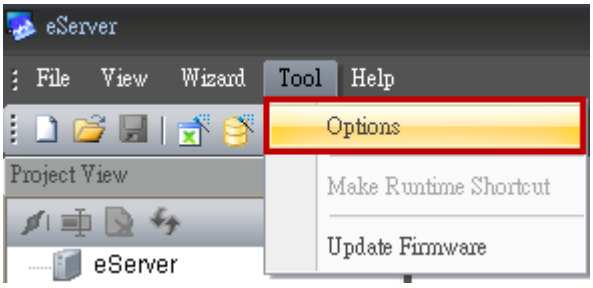
3.3 Start eServer

To start eServer, click **Start > Programs > Delta Industrial Automation > HMI > DOP eServer 1.00.0x > eServer**.



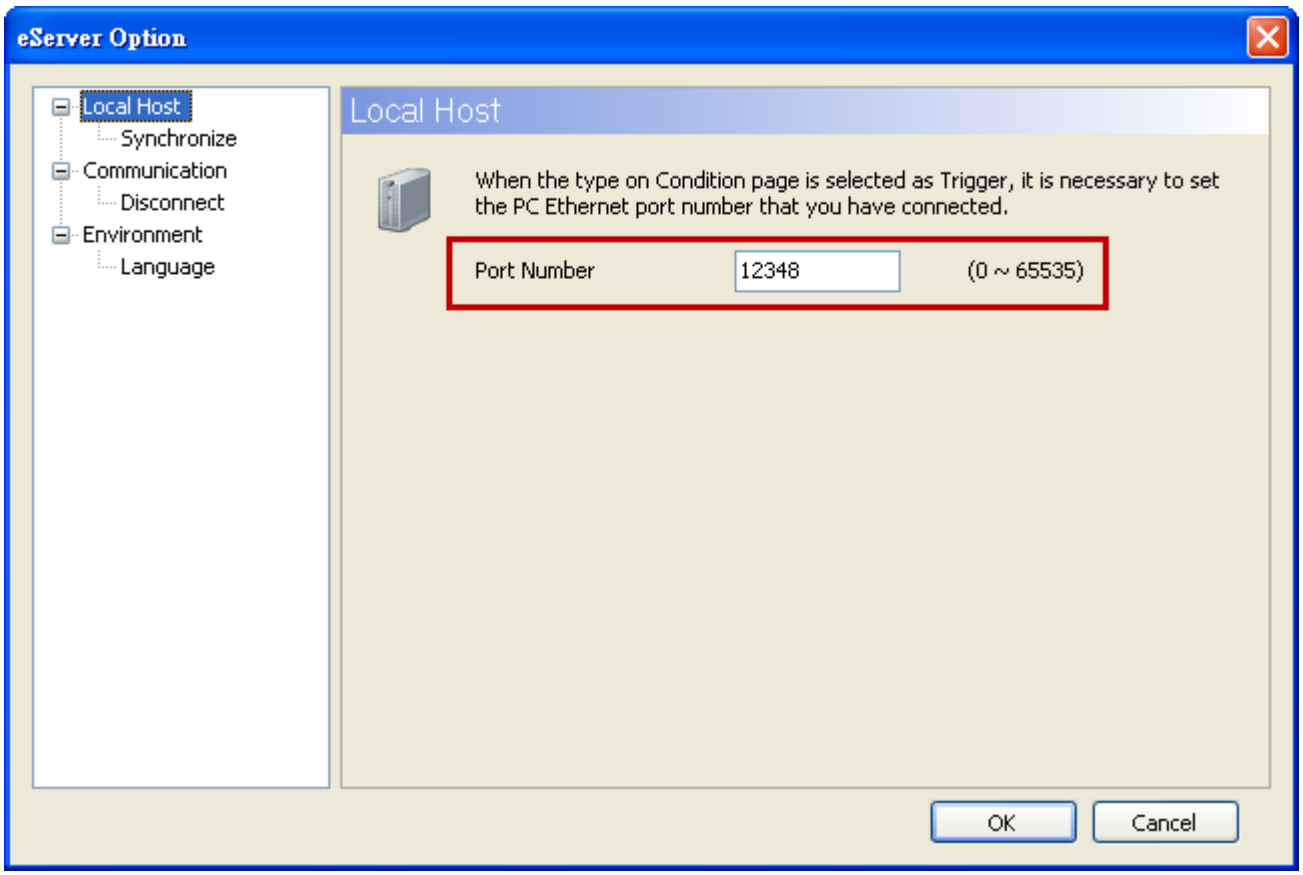
3.4 eServer Options

Start eServer and click **Tool > Options** to synchronize Time and Date settings and perform Disconnect function.



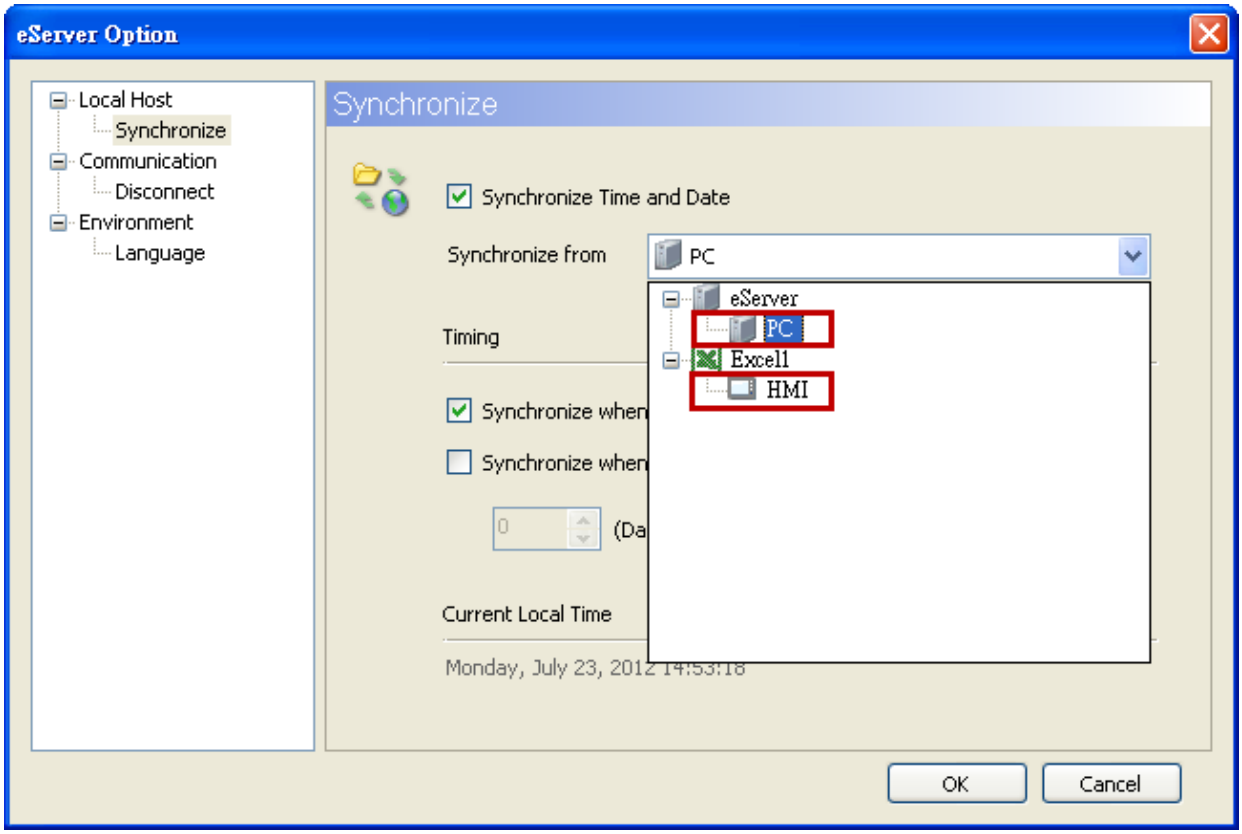
3.4.1 Local Host

When the type on Condition page is selected as Trigger, it is necessary to set the PC Ethernet port number that you have connected. The default setting is 12348.


eServer Option
Local Host
Synchronize
Communication
Disconnect
Environment
Language
Local Host
When the type on Condition page is selected as Trigger, it is necessary to set the PC Ethernet port number that you have connected.
Port Number
12348
(0 ~ 65535)
OK
Cancel

3.4.2 Synchronize Function

Click **Tool > Options** to enter **eServer Option** dialog box. After the box before "Synchronize Time and Date" is checked, the Synchronize function is enabled and the users can choose the source of synchronization function shown as the figure below. When PC is selected, it indicates that the time and date of HMI are both synchronized with the PC. If a linkage (node) is selected, it indicated that the time and date of HMI and PC are all synchronized with the selected linkage.

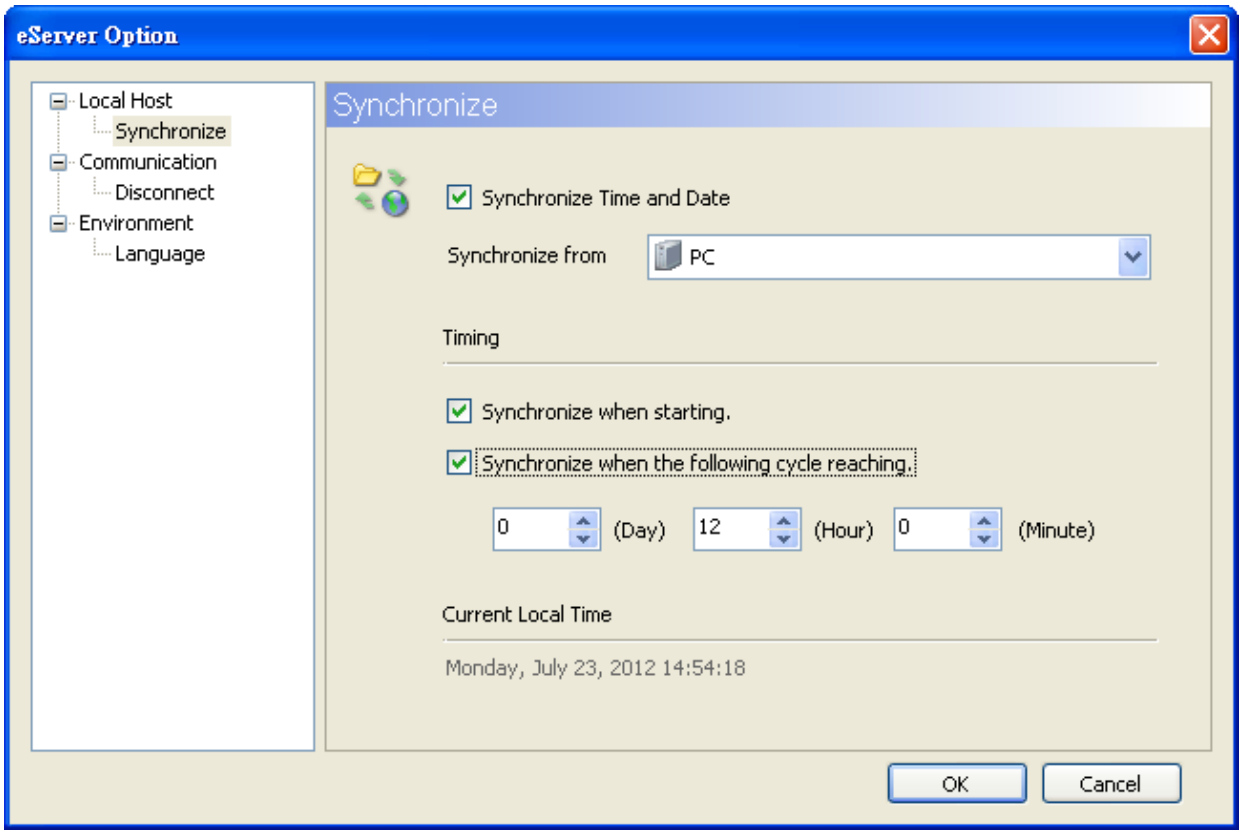


After enable "Synchronize" function, set the timing for synchronizing the time and date.

There are two selections for setting the timing:

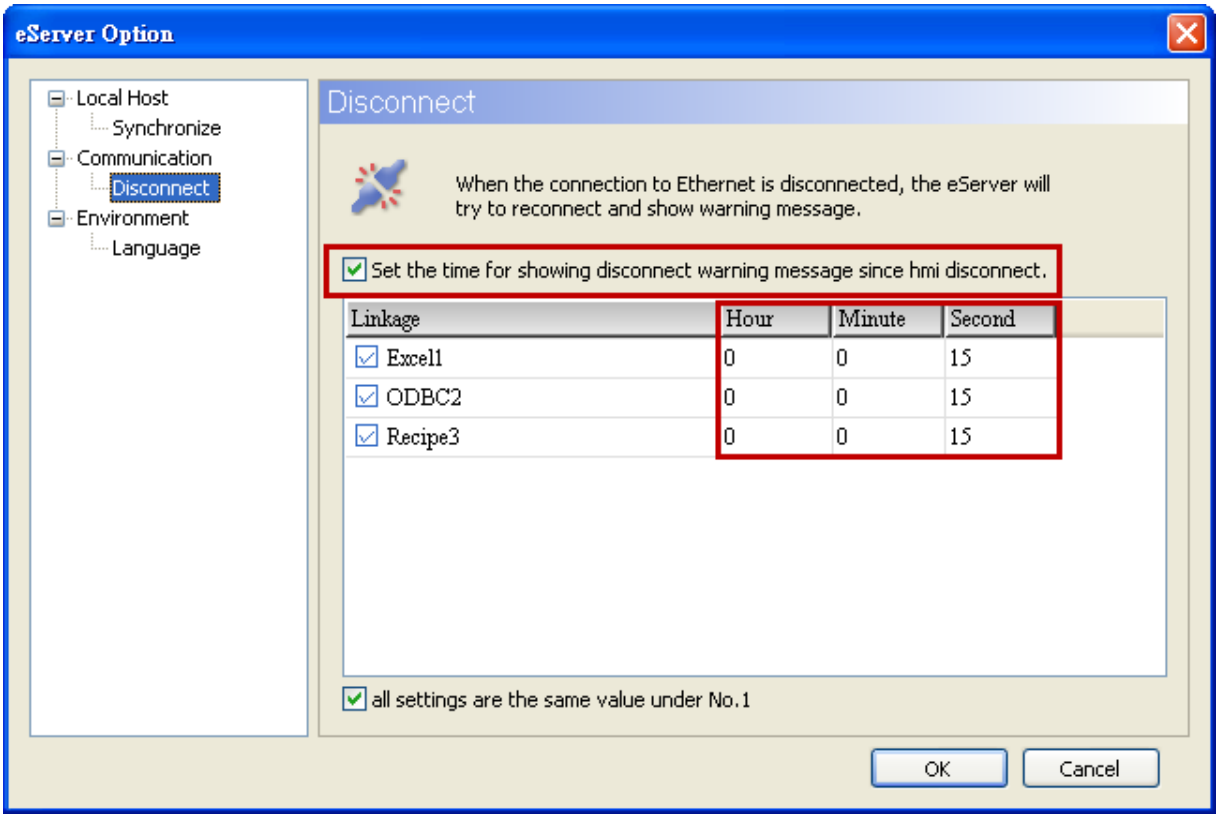
one is "Synchronize when starting" and the other is "Synchronize when the following cycle reaching". Please refer to the figure below.

If "Synchronize when starting" is selected, the time and date of HMI will be synchronized when eServer is started. If "Synchronize when the following cycle reaching" is selected and the cycle time is set to 12 hours, the time and date of HMI will be synchronized once every 12 hours.


eServer Option
Local Host
Synchronize
Communication
Disconnect
Environment
Language
Synchronize
Synchronize Time and Date
Synchronize from
PC
Timing
Synchronize when starting.
Synchronize when the following cycle reaching.
0
(Day)
12
(Hour)
0
(Minute)
Current Local Time
Monday, July 23, 2012 14:54:18
OK
Cancel

3.4.3 Disconnect Function

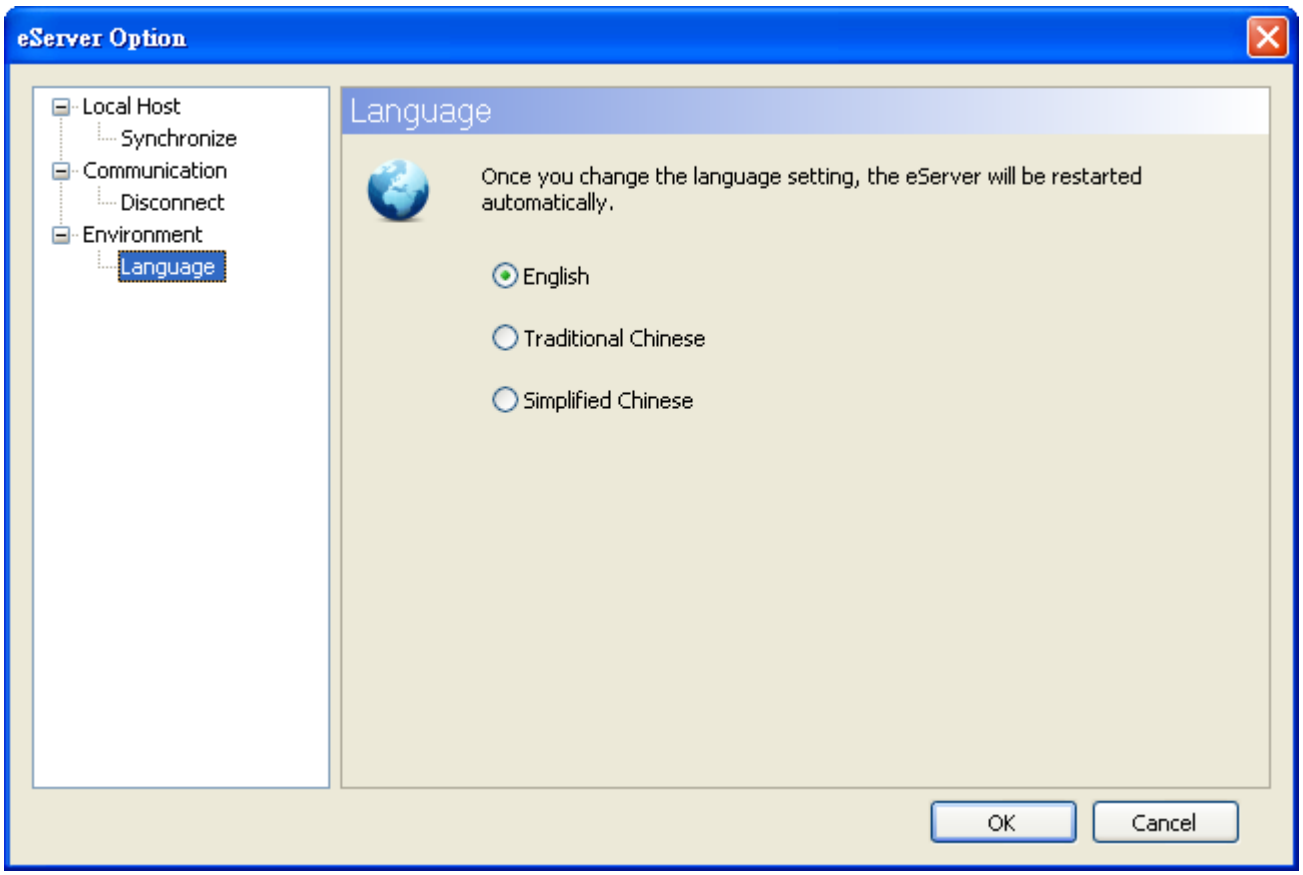
This function allows the system to display warning message when the HMI connection to Ethernet is disconnected, the eServer will showing the warning message after the configured time period.



For example, see the above figure, if the time is set to 15 seconds, when the connection to Ethernet is disconnected, the eServer will display warning message after 15 seconds.

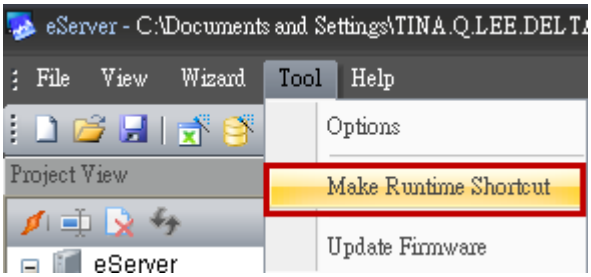
3.4.4 Environment Language Setting

User could change eServer interface language; we provide English, Traditional Chinese and Simplified Chinese to select.

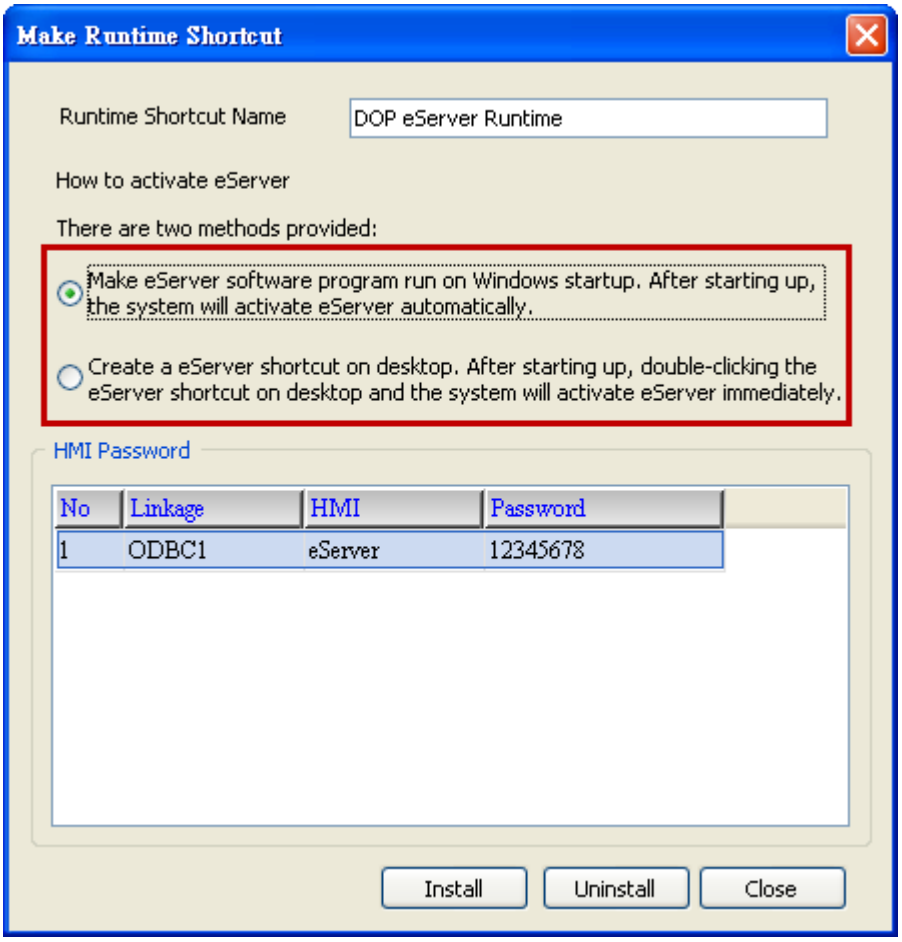

eServer Option
Local Host
Synchronize
Communication
Disconnect
Environment
Language
Language
Once you change the language setting, the eServer will be restarted automatically.
English
Traditional Chinese
Simplified Chinese
OK
Cancel

3.5 Make Runtime Shortcut

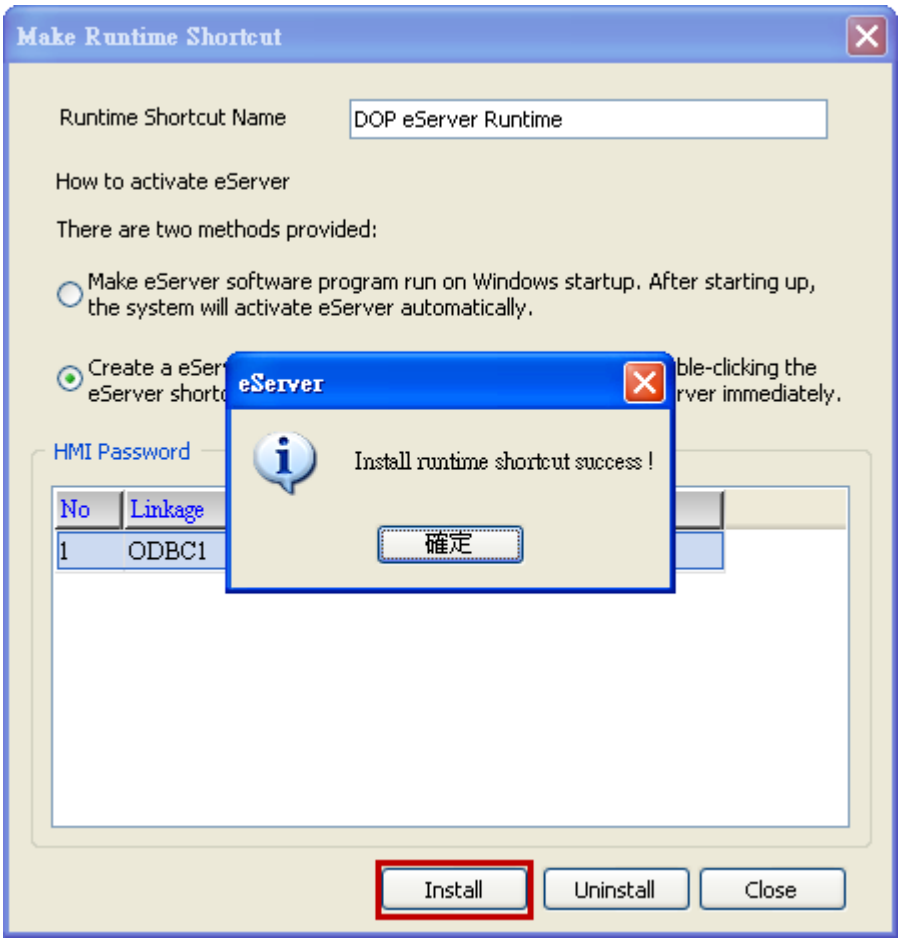
Start eServer and click **Tool > Make Runtime Shortcut** to create a eServer shortcut and activate eServer quickly.



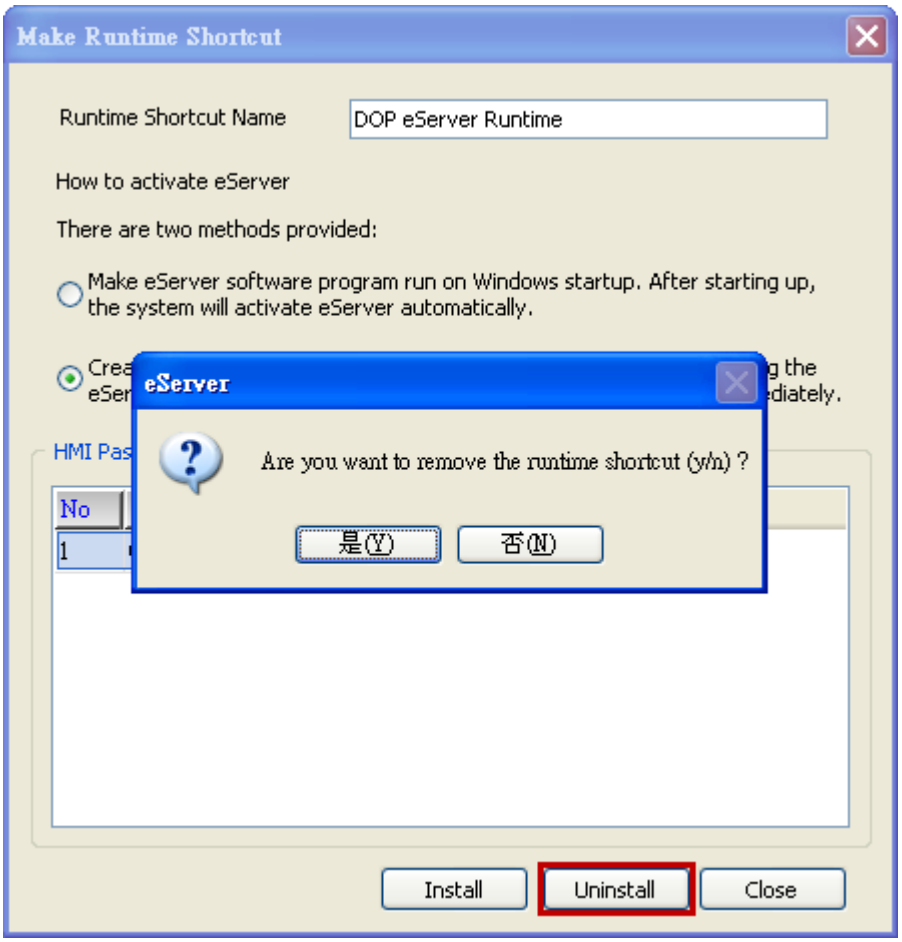
There are two methods provided for making Runtime Shortcut. Please refer to the figure below.

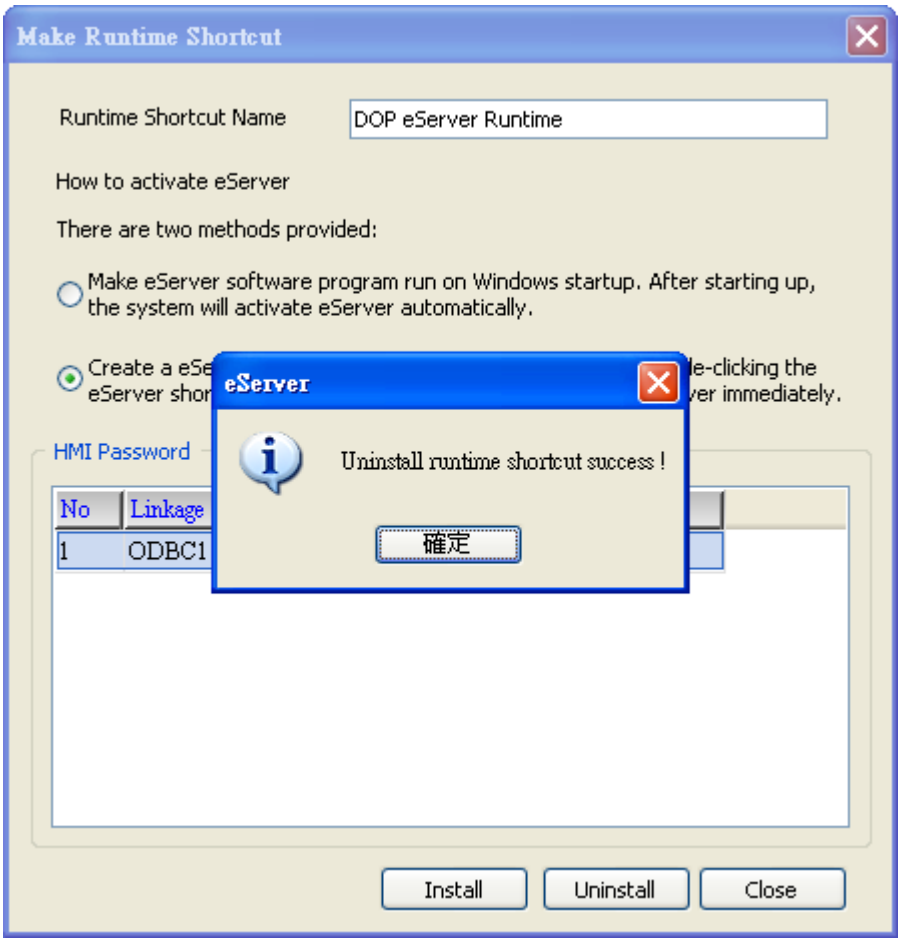


When selecting the desired method, press **Install** button to finish the settings.



If the users want to delete the shortcut, please start eServer, click **Tool > Make Runtime Shortcut** and press **Uninstall** button to remove the shortcut. Failure to follow the above instruction to delete the shortcut will result in system error or abnormal operation.


Make Runtime Shortcut
Runtime Shortcut Name
DOP eServer Runtime
How to activate eServer
There are two methods provided:
Make eServer software program run on Windows startup. After starting up, the system will activate eServer automatically.
eServer
Are you want to remove the runtime shortcut (y/n) ?
是(Y)
否(N)
No
1
Install
Uninstall
Close


Make Runtime Shortcut
Runtime Shortcut Name
DOP eServer Runtime
How to activate eServer
There are two methods provided:
Make eServer software program run on Windows startup. After starting up, the system will activate eServer automatically.
Create a eSe
eServer shor
le-clicking the
ver immediately.
eServer
Uninstall runtime shortcut success !
確定
HMI Password
No
Linkage
1
ODBC1
Install
Uninstall
Close

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Chapter 4 Excel Sampling Setting

4.1 Detailed Settings

Please refer to the following steps to complete Excel sampling setting, i.e. how to log data from HMI to Excel.

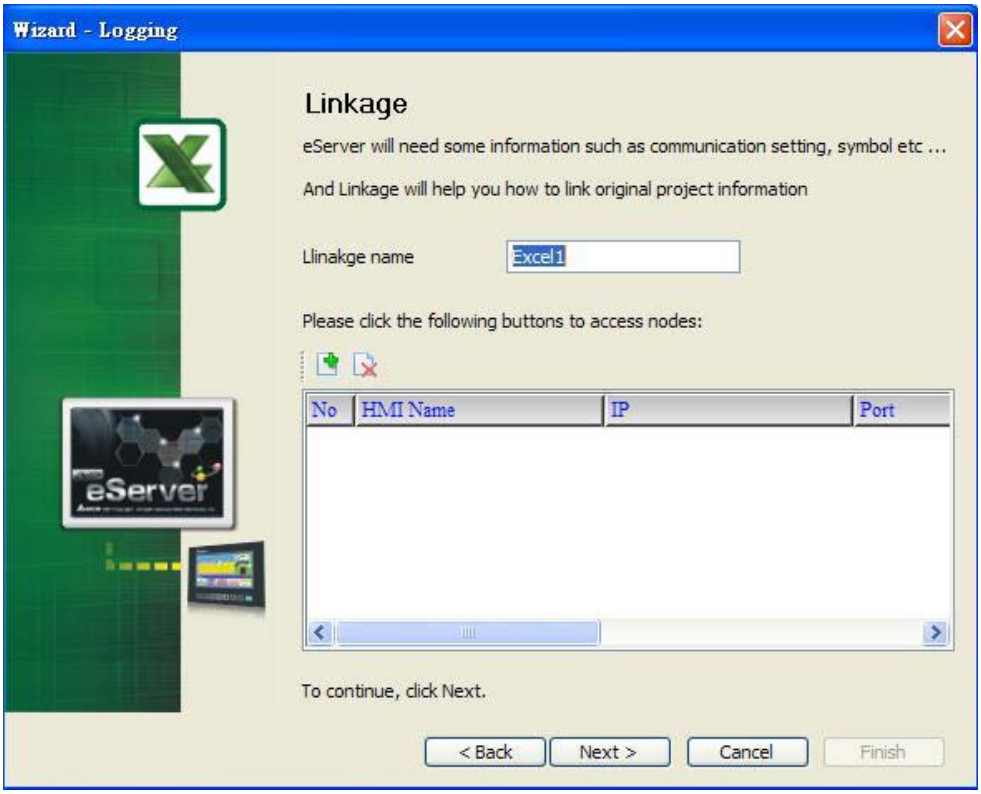
4.1.1 Linkage

Start eServer, and click **File > New** or click **New** icon After the **New** dialog box is opened, select **Logging (Excel)** icon and press **OK** button.

Then, the **Excel Logging Wizard** will be activated and the following dialog box will appear. Press **Next** button to continue.

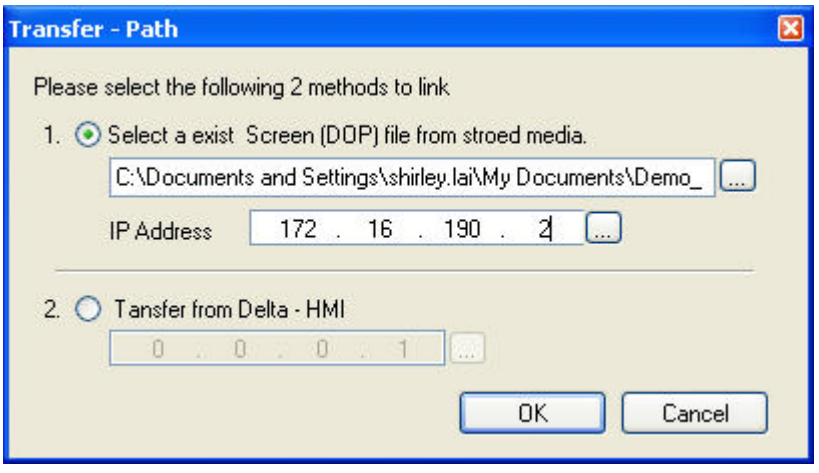


Click **New** icon to access nodes (link to HMI).

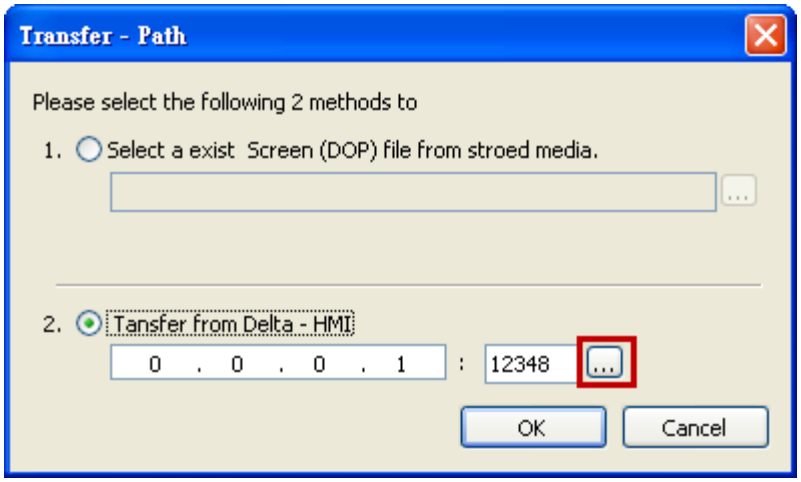


Click  icon to link HMI screen project file. There are two methods available for selection:

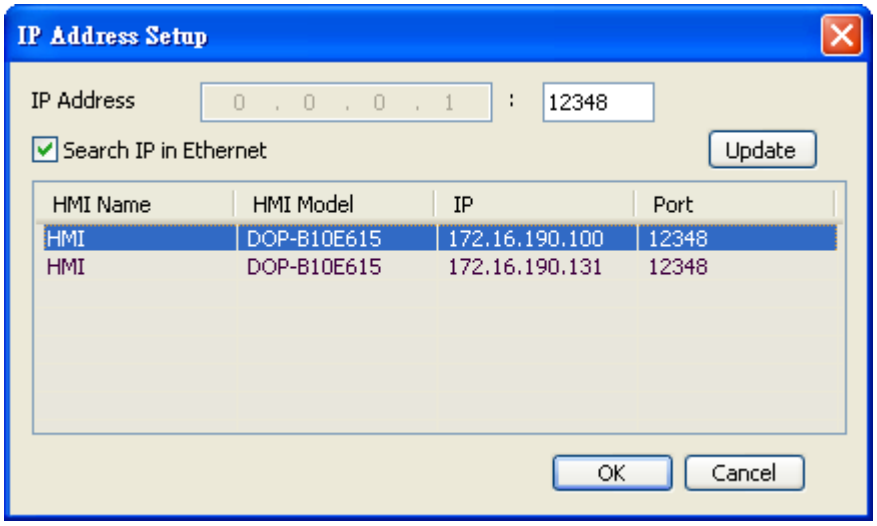
1. Select an existing Screen (DOP) file from stored media: Open an existing screen project file and set the IP address of the connecting HMI.



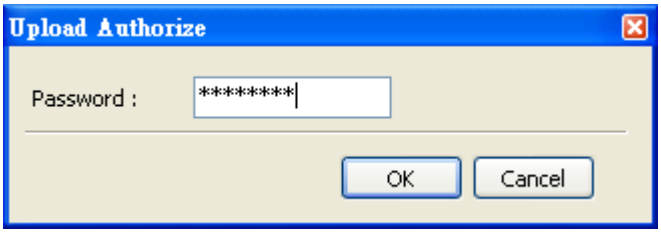
2. Transfer from Delta – HMI: Transfer the HMI screen project file via network communication directly.



After searching finished, press select wanted HMI then press **OK** button.



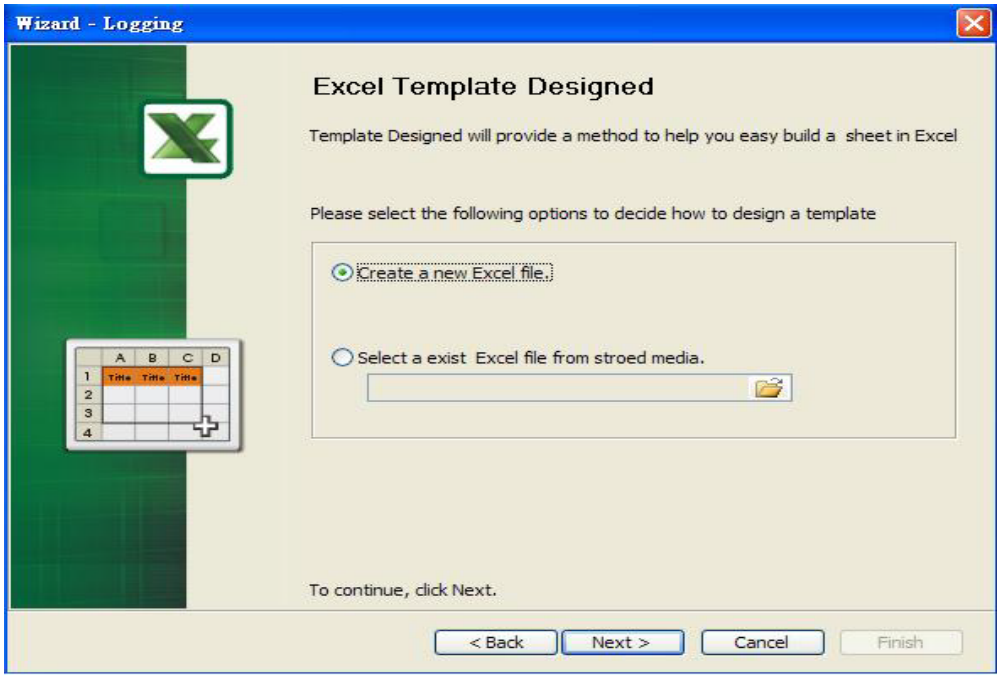
eServer will ask user to input authorize password to upload HMI project. The default security password is **12345678**. After input password finished, press **OK**.



4.1.2 Excel Template Sheet Design

This step is used to create the desired Excel template sheet. There are two methods available for selection:

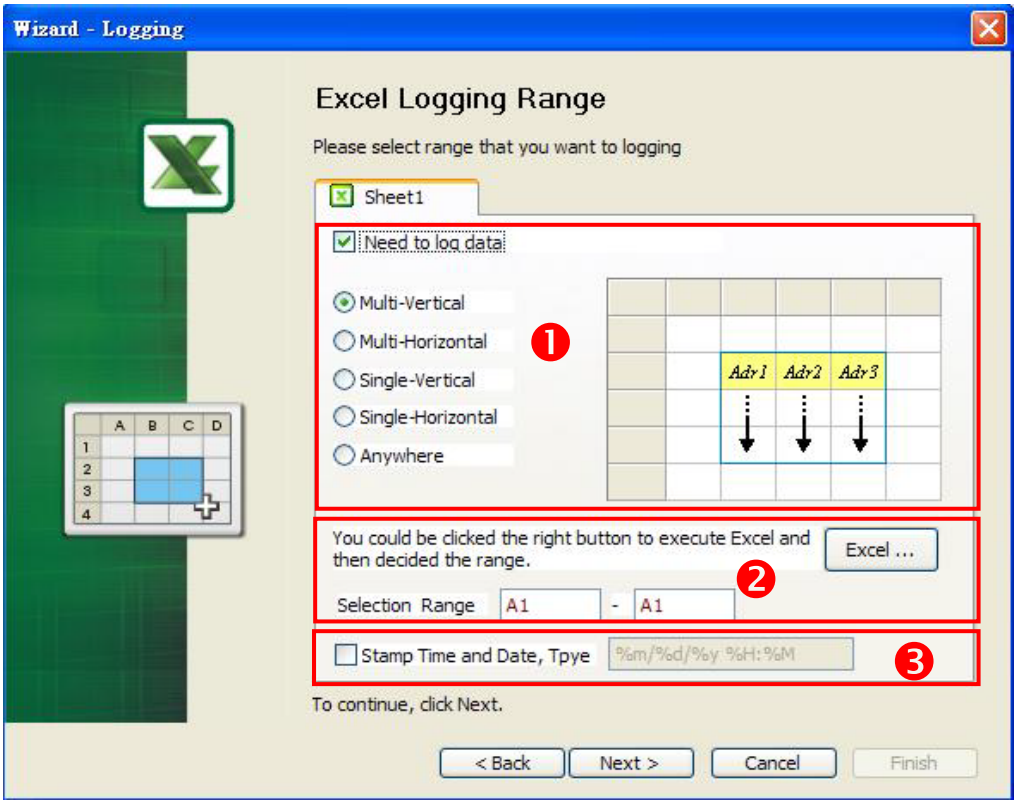
1. Create a new Excel file: When this option is selected, the system will activate Excel automatically and allow the users to design the desired Excel template sheet.
2. Select an existing Excel file from stored media: When this option is selected, the system will allow the users to open an existing Excel file.



Press **Next** button to go to next step.

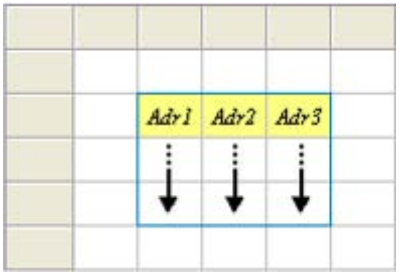
4.1.3 Excel Logging Range Setting

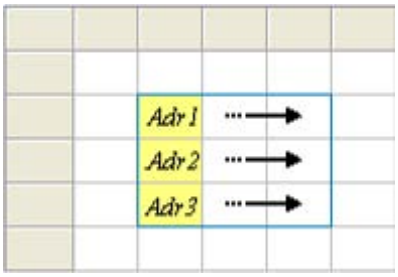
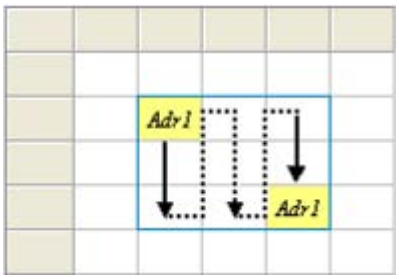
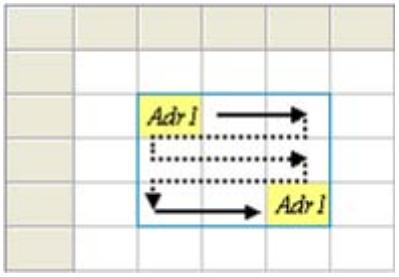
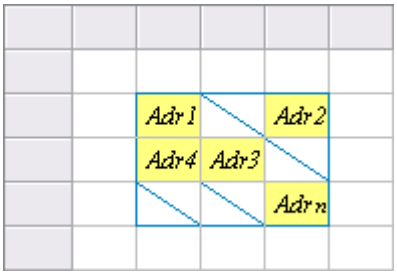
This step is used to specify the logging range to which the sampling data will be written. There are three parts in this dialog box.



1. Sampling Direction

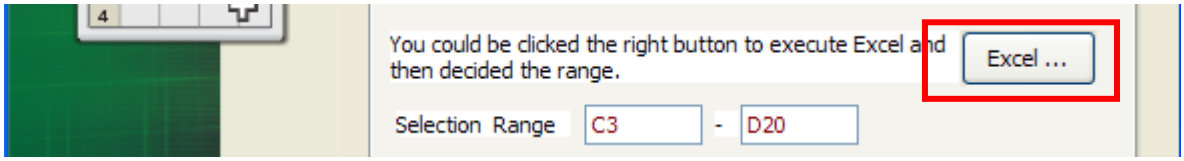
   Check **Need to log data** box to determine the sampling direction and select the data range that you want to log. If **Need to log data** box is not checked, the sampling direction will be disabled and the data range cannot be selected. There are five different sampling directions could be selected. Please refer to the following table for explanation.

Sampling Direction	Diagram
Multi-Vertical: When this option is selected, multiple numbers of different register data could be logged into each vertical column in the selecting area simultaneously.	

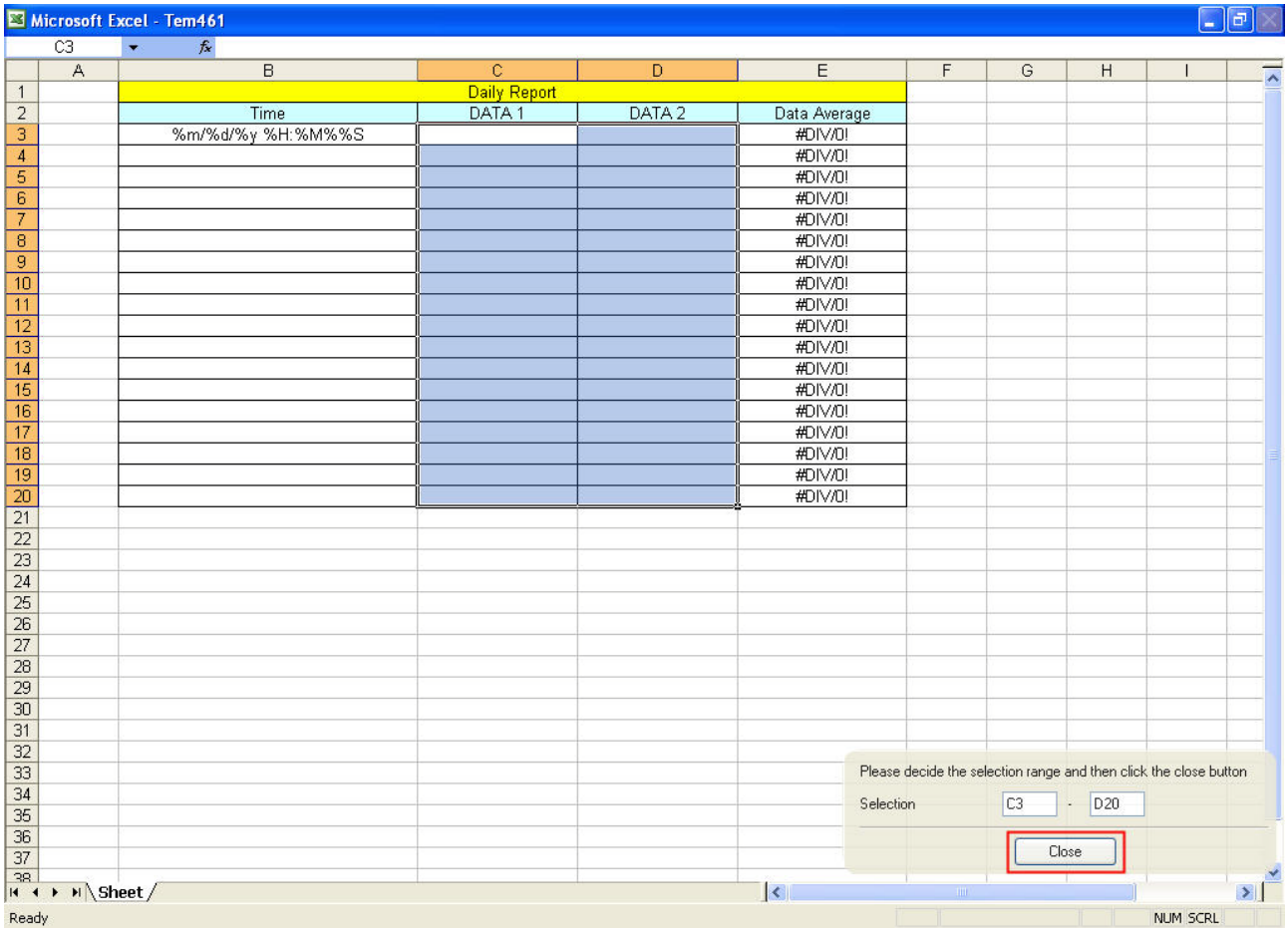
Sampling Direction	Diagram
Multi-Horizontal: When this option is selected, multiple numbers of different register data could be logged into each horizontal row in the selecting area simultaneously.	
Single-Vertical: When this option is selected, only one number of register data could be logged into one cell for one time. The sampling operation is in vertical direction. The sampling operation of the second vertical column will not start unless the sampling operation of the first vertical column is done. Please refer to the right diagram.	
Single-Horizontal: When this option is selected, only one number of register data could be logged into one cell for one time. The sampling operation is in horizontal direction. The sampling operation of the second horizontal row will not start unless the sampling operation of the first horizontal row is done. Please refer to the right diagram.	
Anywhere: When this option is selected, the register data could be logged into any desired cell.	

2. Selection Range

   Press Excel button and the system will open the editing Excel template sheet immediately.



In Excel template sheet, use the mouse to decide the selection range. After the desired range is selected, press **Close** button to finish.



3. Stamp Time and Date

When this option is selected, the sampling time and date will be written as well automatically when the sampling data is recorded. The written position will be different depending on the setting sampling direction. Generally, the written position will be at the previous column or row before the selection range. However, if the following three conditions occur, the function of Stamp Time and Date will be disabled.

a. When the sampling direction is vertical and the selection range includes column A (the first column).

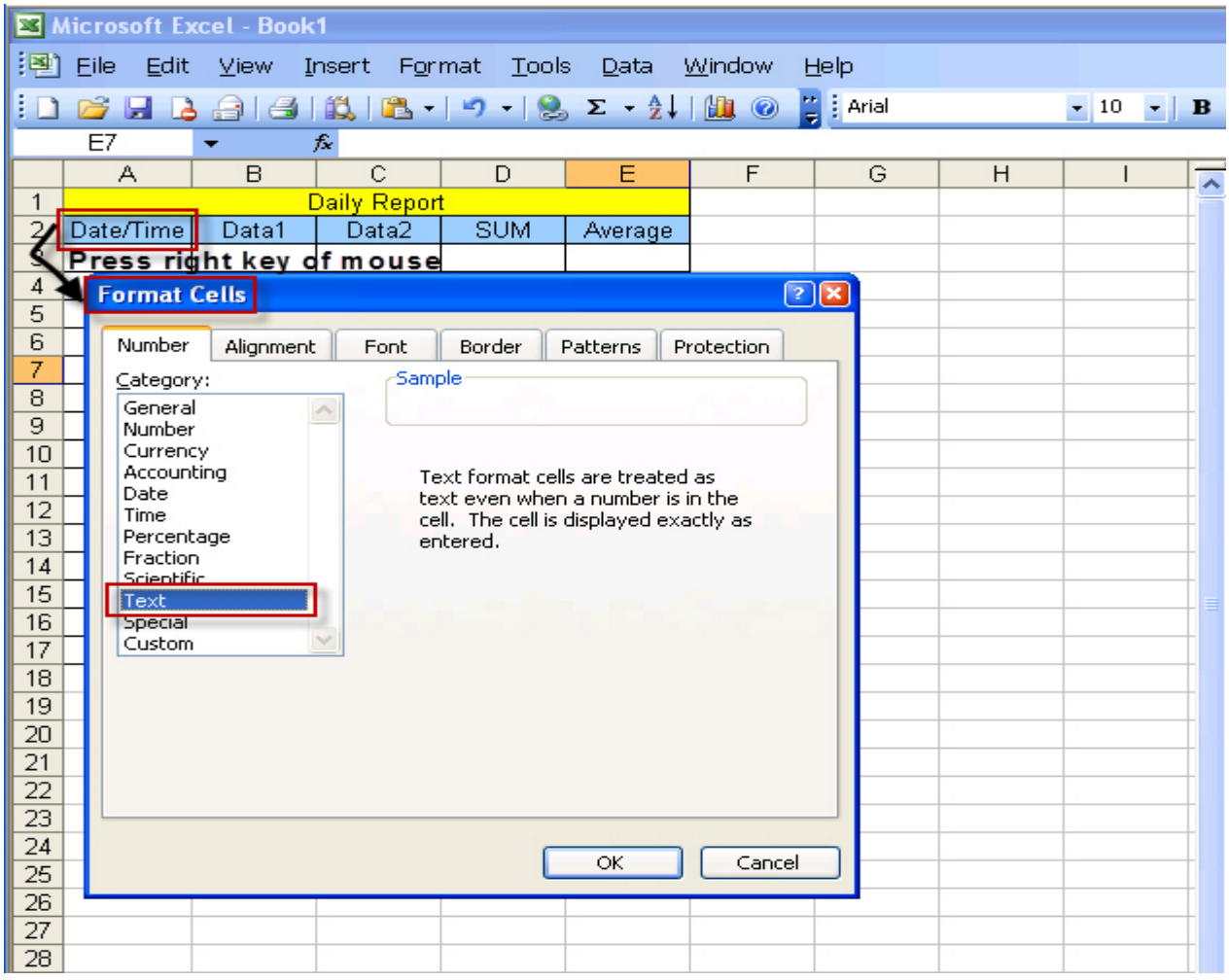
b. When the sampling direction is horizontal and the selection range includes row 1 (the first row).

c. When the sampling direction is anywhere.

The format of the date and time is specified by a string of characters which can be user-defined and changed freely. Please refer to the table below for the string representation.

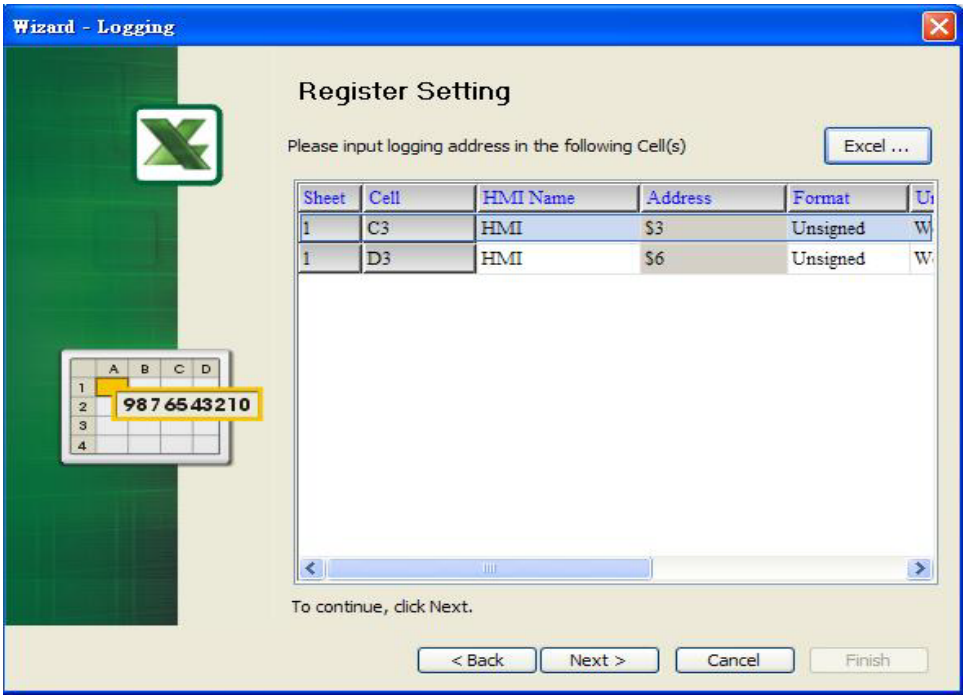
String Format	Representation
%m	Month
%d	Date
%y	Year
%H	Hour
%M	Minute
%S	Second

When change time stamp to "%m/%d %H:%M:%S", Excel will automatically transfer General type to Text type of Format Cells. Therefore, if set the value to 03/09 12:58:36, it will corresponding to 2011/3/9 12:58:36. If you would like to use the custom format in Excel, please set the time stamp column, and press right key of mouse, into Format Cells to change the General type to Text type.



4.1.4 Register Setting

This step is used to set the register address of the sampling data.



Setting Item	Description	Remark
Sheet	Excel Sheet index which the sampling data will be written	Unchangeable
Cell	Excel Cell which the sampling data will be written	Unchangeable
HMI Name	Name of connecting HMI	
Address	Register Address	
Format	1. When the register address is set to Bit, this data format setting will be disabled. 2. When the register address is set to Word, this data format setting will be enabled and the available settings include: BCD, Signed, Unsigned, Hex, Floating, Char (Character)	
Unit	Unit of the data length of the register	Unchangeable
Read Count	1. When the register address is set to Bit, this setting will be 1(one) always. 2. When the register address is set to Word, if the data format is set to BCD, Signed, Unsigned, Hex, and Floating, the setting value of this field could not exceed 2(two). 3. When the register address is set to Word, if the data format is set to Char (Character), the setting value of this field could be user-defined and the max. setting value could be set to 100(hundred).	

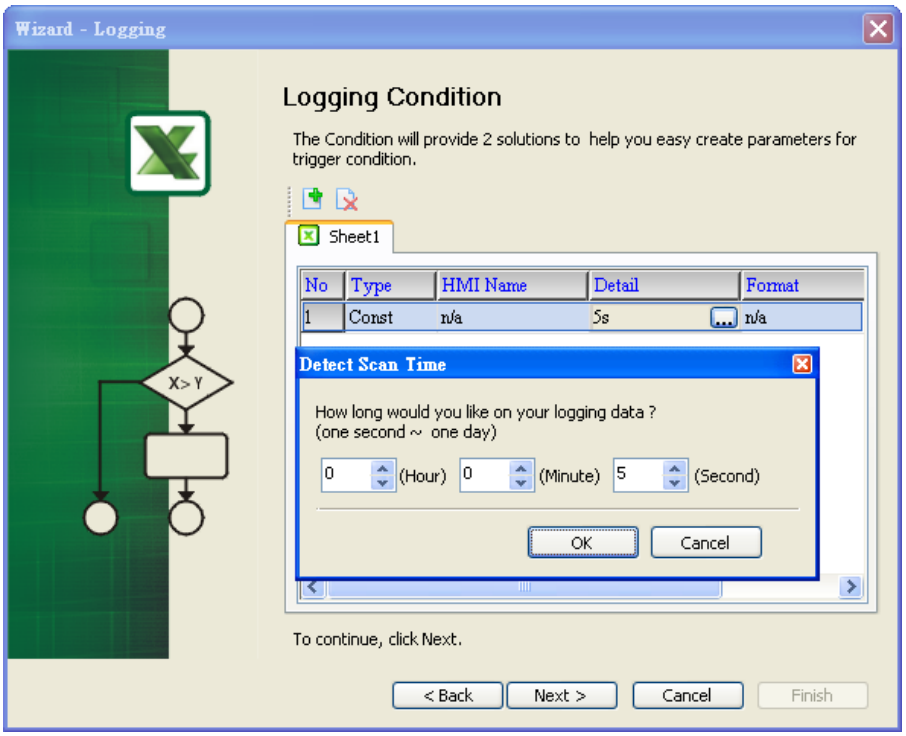
Setting Item	Description	Remark
Integer	1. If the register address is set to Bit, this integer setting cannot be set. 2. If the register address is set to Word, except Floating and Char(Character), when the other format is selected, this integer setting can be set. 3. When Read Count is 2, Format is floating, it can be set Integer.	
Fraction	1. If the register address is set to Bit, this fraction setting cannot be set. 2. If the register address is set to Word, except Floating and Char(Character), when the other format is selected, this fraction setting can be set. 3. When Read Count is 2, Format is floating, it can be set Fraction.	
Controller	Connecting controller	Unchangeable

4.1.5 Sampling Conditions

This step is used to set the sampling conditions. There are two kinds of options for selection:

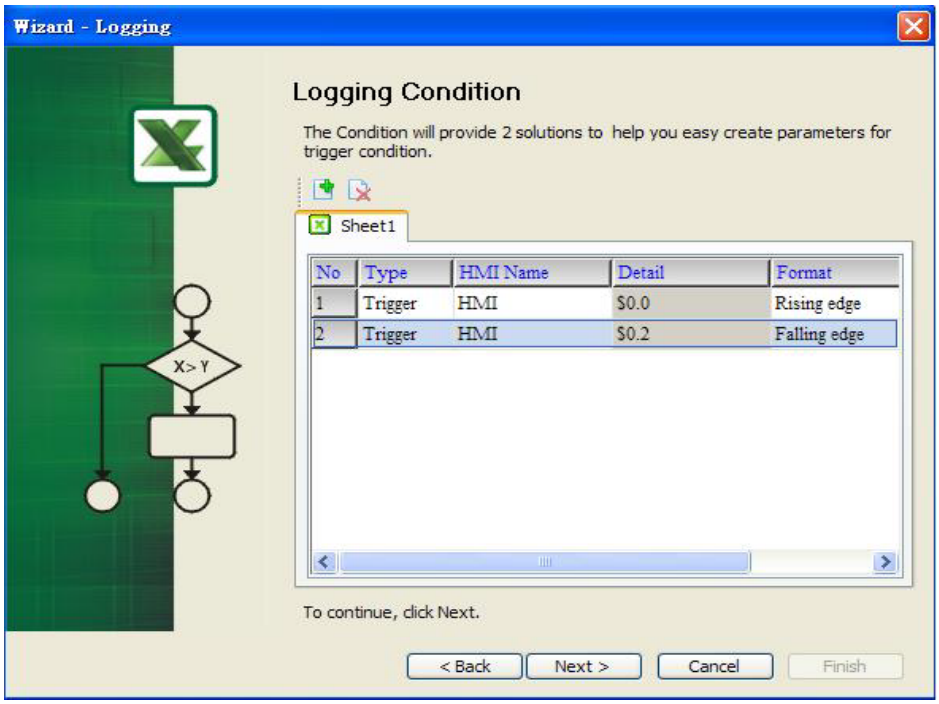
1. Const (execute sampling repeatedly in a certain span of time)

   This option is used to determine how long the sampling process is repeated. The time unit can be defined as ms, second, minute or hour.



2. Trigger (Execute sampling when the trigger conditions are satisfied)

   This option is used to determine how long the sampling process is repeated when the trigger conditions are met. The detailed settings are described as follows:



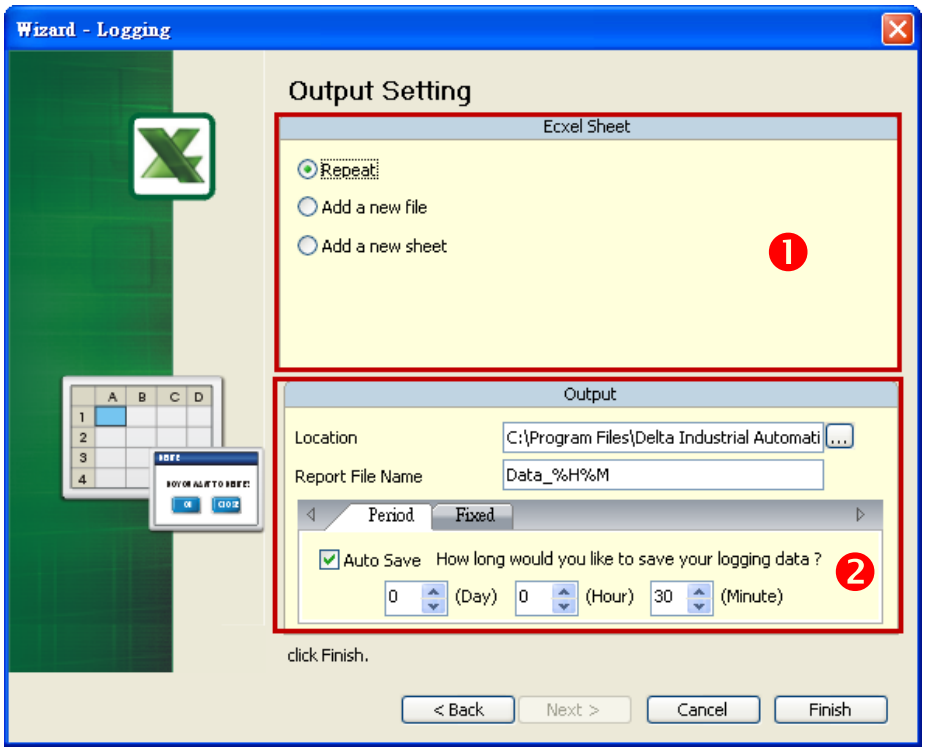
Polling Cycle (Sampling Cycle): It is used to determine how long the sampling process is repeated. The time unit is ms.

Logging Condition:

Setting Item	Description	Remark
No.	Condition number	Unchangeable
Type	Sampling type. There are two kinds of options for selection: Const and Trigger. Const: Execute sampling repeatedly in a certain span of time. Trigger: Execute sampling when the trigger conditions are satisfied.	
HMI Name	Name of connecting HMI	
Detail	Register Address	
Format	1. When the register address is set to Bit, the selectable options are: A. Rising edge: Triggered by rising-edge B. Falling edge Triggered by falling-edge	
Controller	Connecting controller	Unchangeable

4.1.6 Output Setting

This step is used to set how to output and save the sampling data.

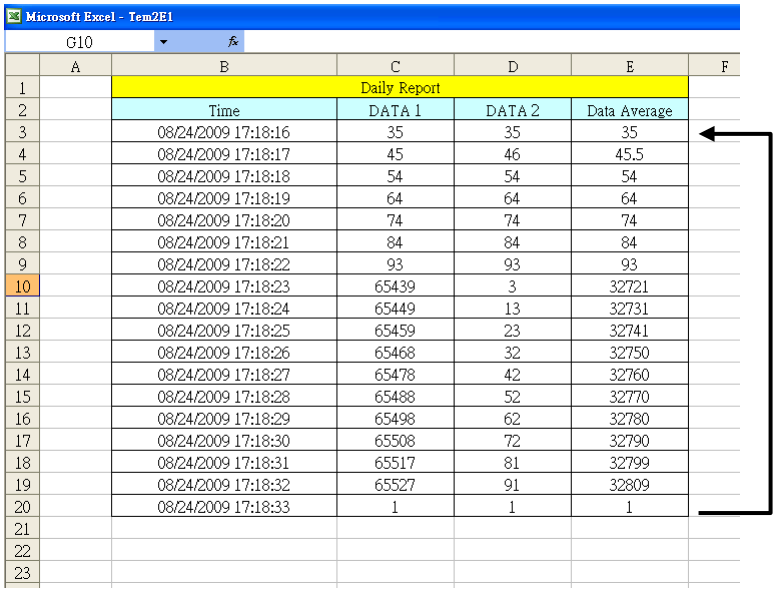


There are two parts in this dialog box:

1. Excel Sheet

   A. Repeat

   When the sampling data has been filled in the selection range to the full, the system will write the data into the selection range from the first column or row repeatedly.



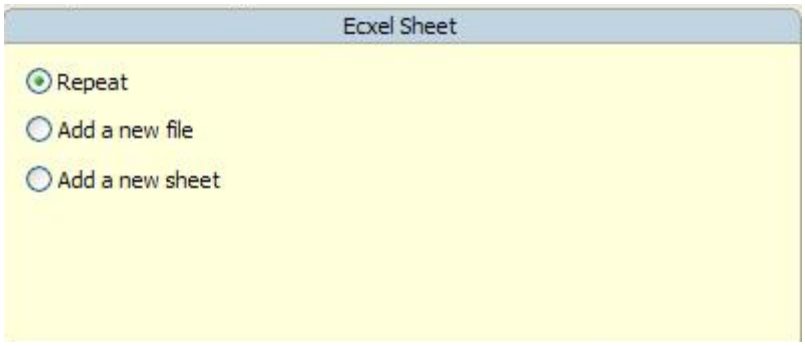
	A	B	C	D	E	F
1		Daily Report				
2		Time	DATA 1	DATA 2	Data Average	
3		08/24/2009 17:18:16	35	35	35	
4		08/24/2009 17:18:17	45	46	45.5	
5		08/24/2009 17:18:18	54	54	54	
6		08/24/2009 17:18:19	64	64	64	
7		08/24/2009 17:18:20	74	74	74	
8		08/24/2009 17:18:21	84	84	84	
9		08/24/2009 17:18:22	93	93	93	
10		08/24/2009 17:18:23	65439	3	32721	
11		08/24/2009 17:18:24	65449	13	32731	
12		08/24/2009 17:18:25	65459	23	32741	
13		08/24/2009 17:18:26	65468	32	32750	
14		08/24/2009 17:18:27	65478	42	32760	
15		08/24/2009 17:18:28	65488	52	32770	
16		08/24/2009 17:18:29	65498	62	32780	
17		08/24/2009 17:18:30	65508	72	32790	
18		08/24/2009 17:18:31	65517	81	32799	
19		08/24/2009 17:18:32	65527	91	32809	
20		08/24/2009 17:18:33	1	1	1	
21						
22						
23						

   B. Add a new file

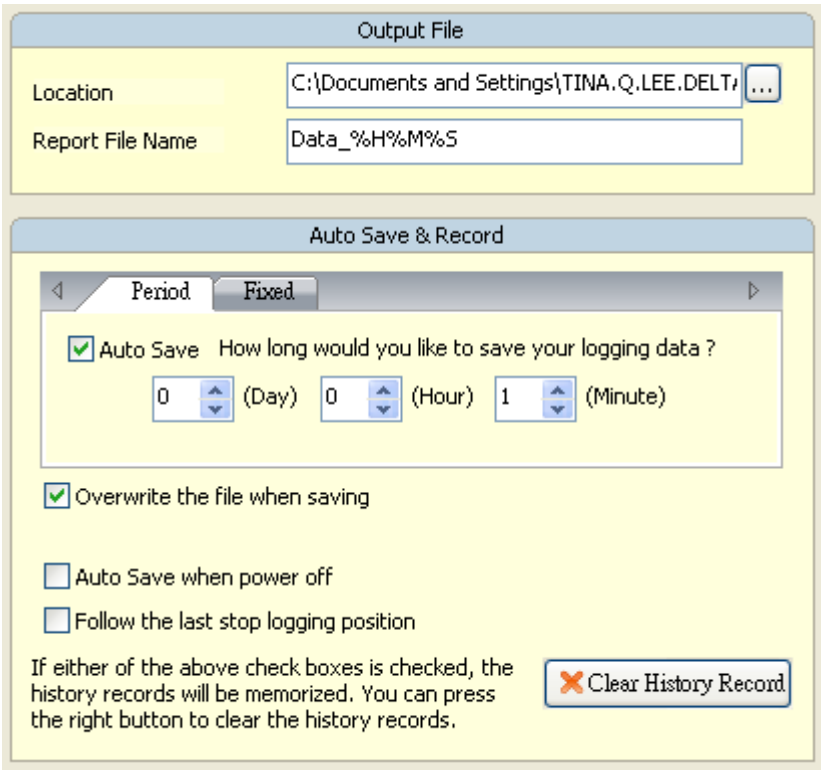
   When the sampling data has been filled in the selection range to the full, the system will open a new Excel file automatically and write the data into the new Excel file.

C. Add a new sheet

When the sampling data has been filled in the selection range to the full, the system will open a new Excel sheet automatically and write the data into the new Excel sheet.



2. Output Setting



A. Location: Choose file destination location.

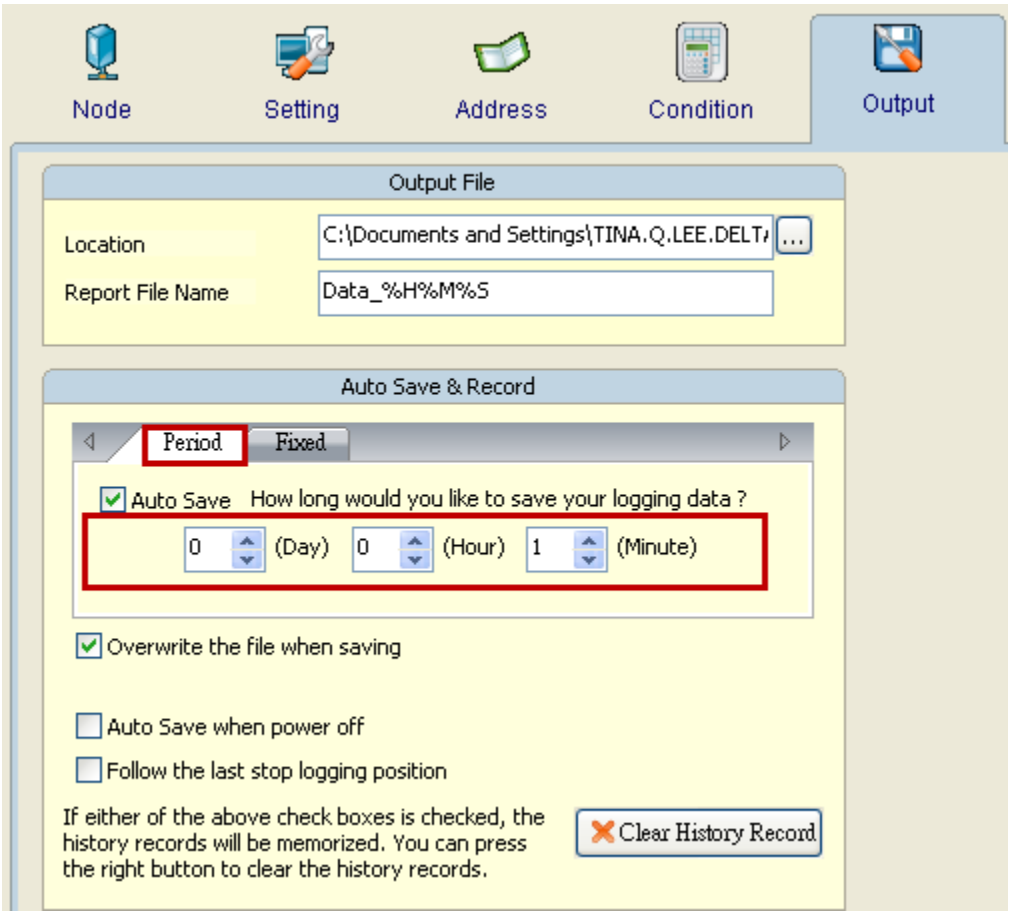
B. Report File Name: Specify the name of the report file. The users can add the date and time in the end of the file name. The format of the date and time is specified by a string of characters which can be user-defined and changed freely. Please refer to the table below for the string representation.

String Format	Representation
%m	Month
%d	Date

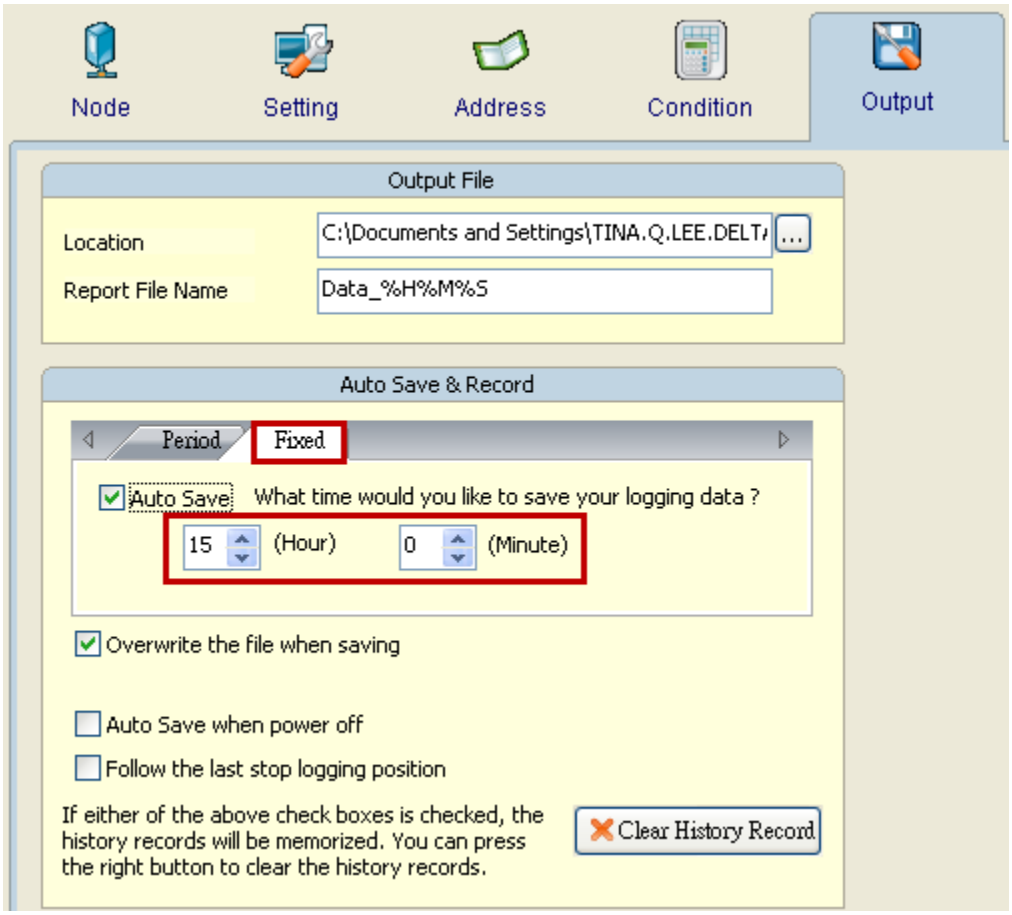
%y	Year
%H	Hour
%M	Minute
%S	Second

C. Auto Save: When this option is enabled, the system will back up the data in a period of specified time automatically in case the data will be lost due to abnormal operation when the power source is cut off unexpectedly or other accident occurs. Auto save function include **Period** and **Fixed**.

Period is corresponding to user custom time, if period time set to one minute, it means every minute save file and refer to Excel sheet to repeat, add a new file or add a new sheet.



Fixed time format is 24h. A day could only save one time. If set fixed time to 15 hour, it means it will save file at 15 hour in a day and refer to Excel sheet to repeat, add a new file or add a new sheet.



D. Overwrite the file when saving

This function default is enable, it means when logging data is not full with data range, it will keep saving data into the same file. If disable this function, it means when logging data is not full with data range, it will save as file and will not overwrite data.

- Set one minute to auto save file, scan time is five minutes, data range is 20, disable overwrite the file when saving :

When time arrived one minute, the data range still not full, and due to disable overwrite the file when saving option, the file will save as file according to one minute.

- Set one minute to auto save file, scan time is five minutes, data range is 20, enable overwrite the file when saving :

When time arrived one minute, the data range still not full, and due to enable overwrite the file when saving option, the data will overwrite to the same file until the data range full and will according to repeat, add a new file or add a new sheet to save file.

E. Auto Save when power off

This option provide when HMI power off, eServer will auto save the currently data.

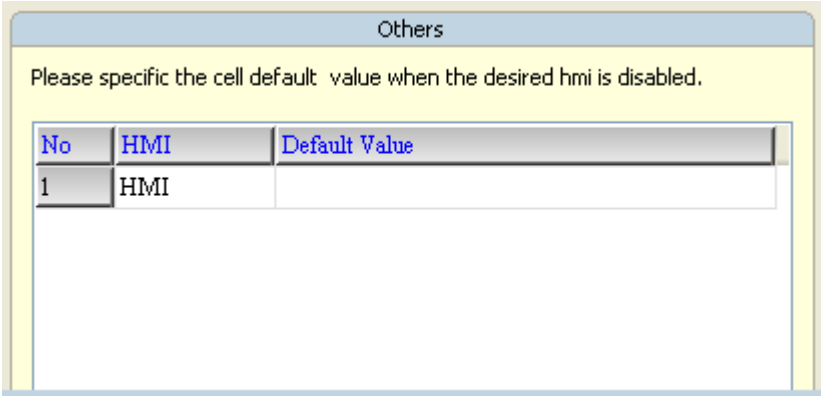
F. Follow the last stop logging position

When user enable this function, it means eServer follow the last stop logging position to continue logged and will not clear the previously data.

G. Clear History Record

User could press this Clear History Record button to clear all previously logging data.

4.1.7 Other Setting

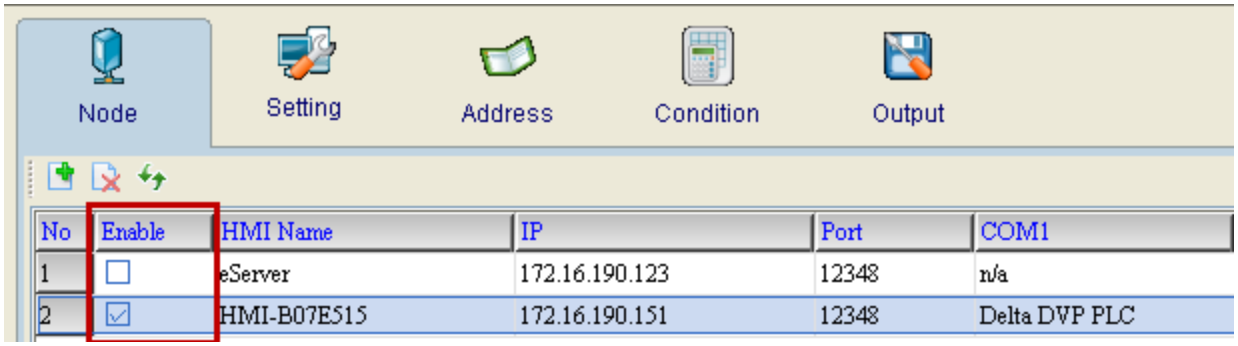


This function only at Excel and ODBC logging and have to fill with default value when uncheck usage. If use Recipe logging, this function does not have to fill with default value, so uncheck usage node at Recipe just means without connection.

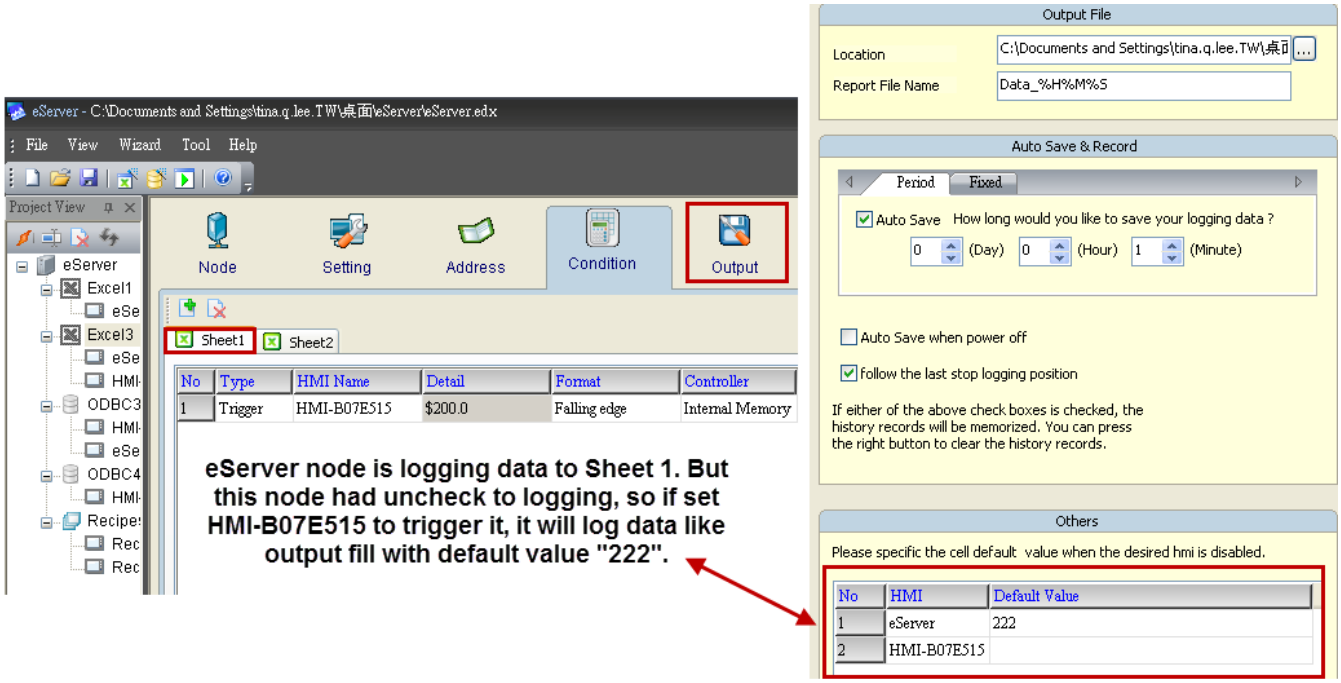
Excel：

When user create multi-nodes, but it does not need to use one of them, eServer provide function for user could select if execute node to logging data or not.

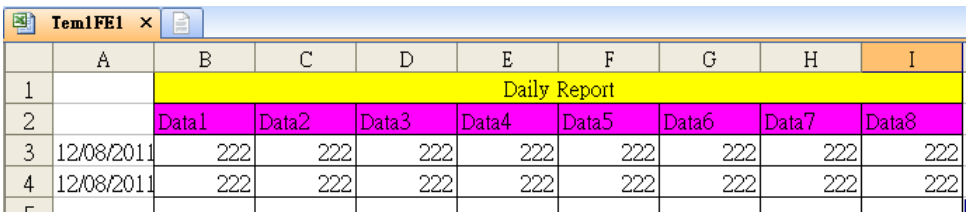
Step1. Uncheck eServer node to logging.



Step2. If uncheck usage each node, it have to fill with some default numeric data at Output setting. Users could fill with empty or some numeric like 222.

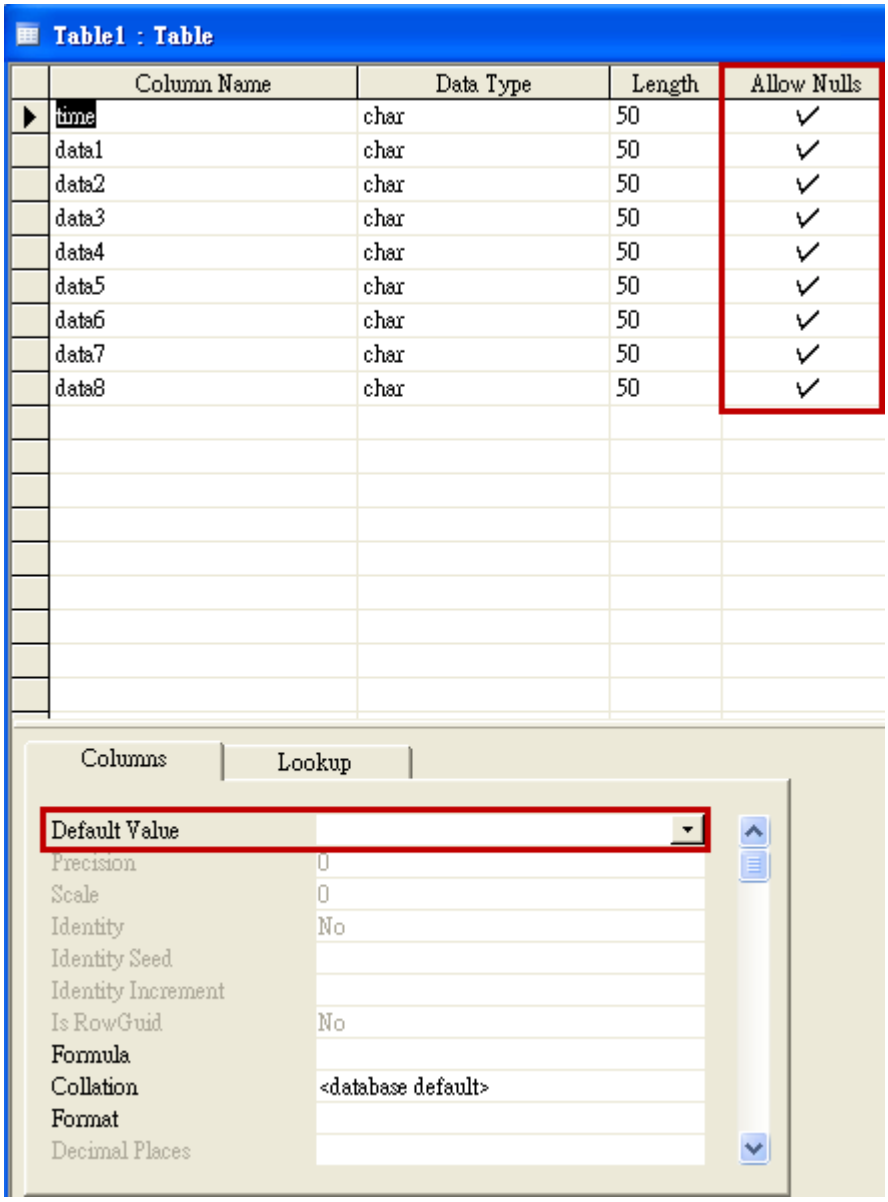


Step3. When trigger $200.0 at HMI-B07E515 node, the excel data will fill with 222.



ODBC：

ODBC logging also provide user could select usage node or not. And the default value is according to each ODBC data base setting to data table for “allow nulls” and “default value”.



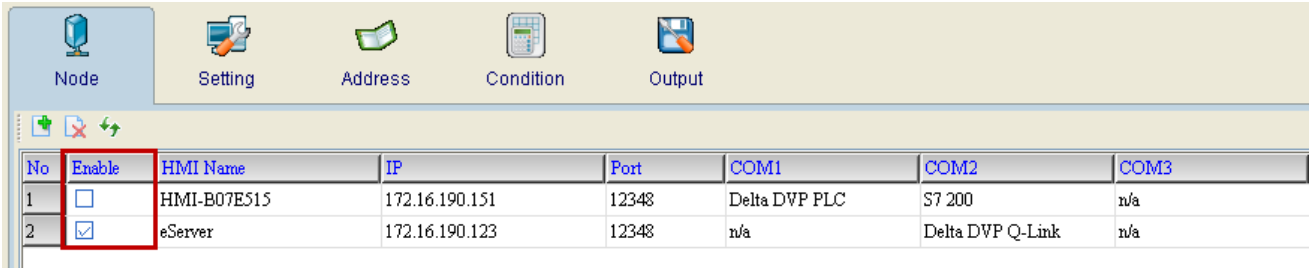
Allow nulls have three kinds of state:

a. If set allow nulls for not null and uncheck usage then logging data, eServer will display error message and stop logging.

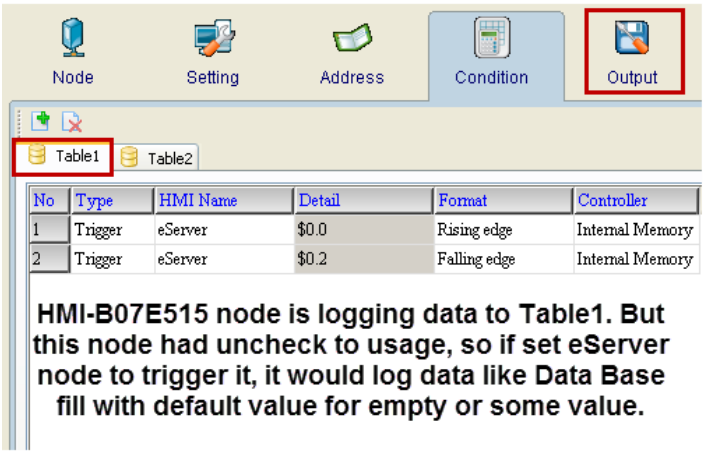
b. If set allow nulls for null and does not set default value, eServer will fill with empty to replace data.

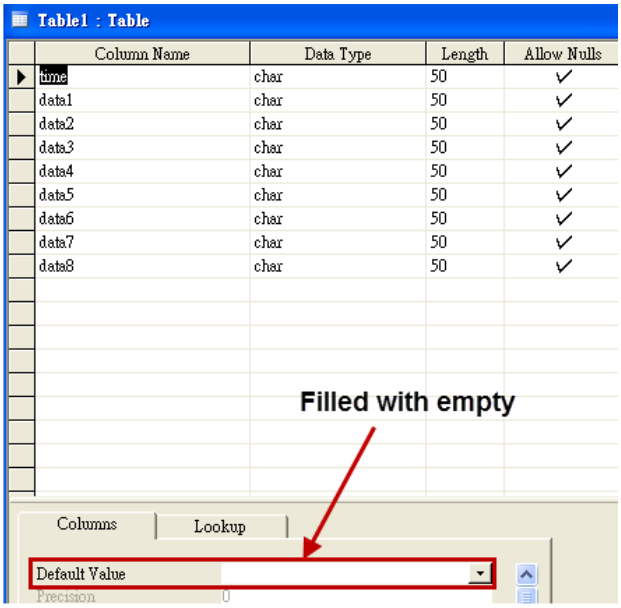
c. If set allow nulls for null and does set default value like 222, eServer will fill with 222 to replace data.

Step1. Uncheck HMI-B07E515 node to logging.

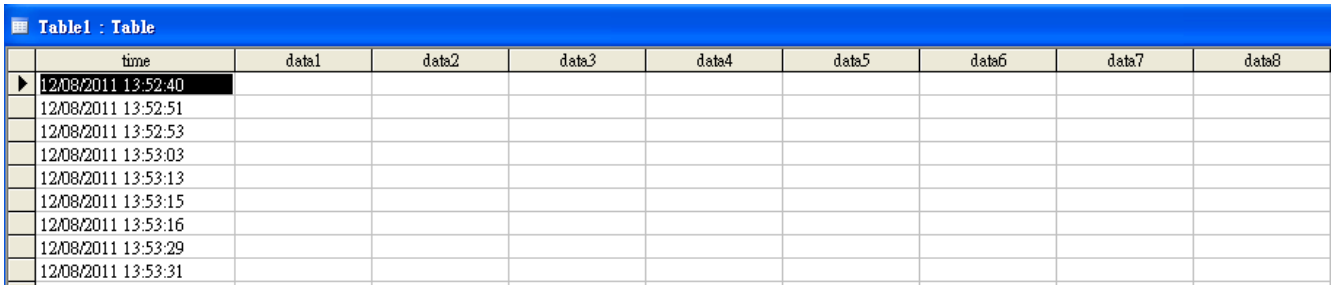


Step2. Table 1 is logging data to HMI-B07E515 node. Set trigger for eServer node at Table 1.





Step3. When trigger on $0.0 and $0.2 at eServer node, the table1 would fill with empty data.



Chapter 5 Writing Data in Microsoft Excel

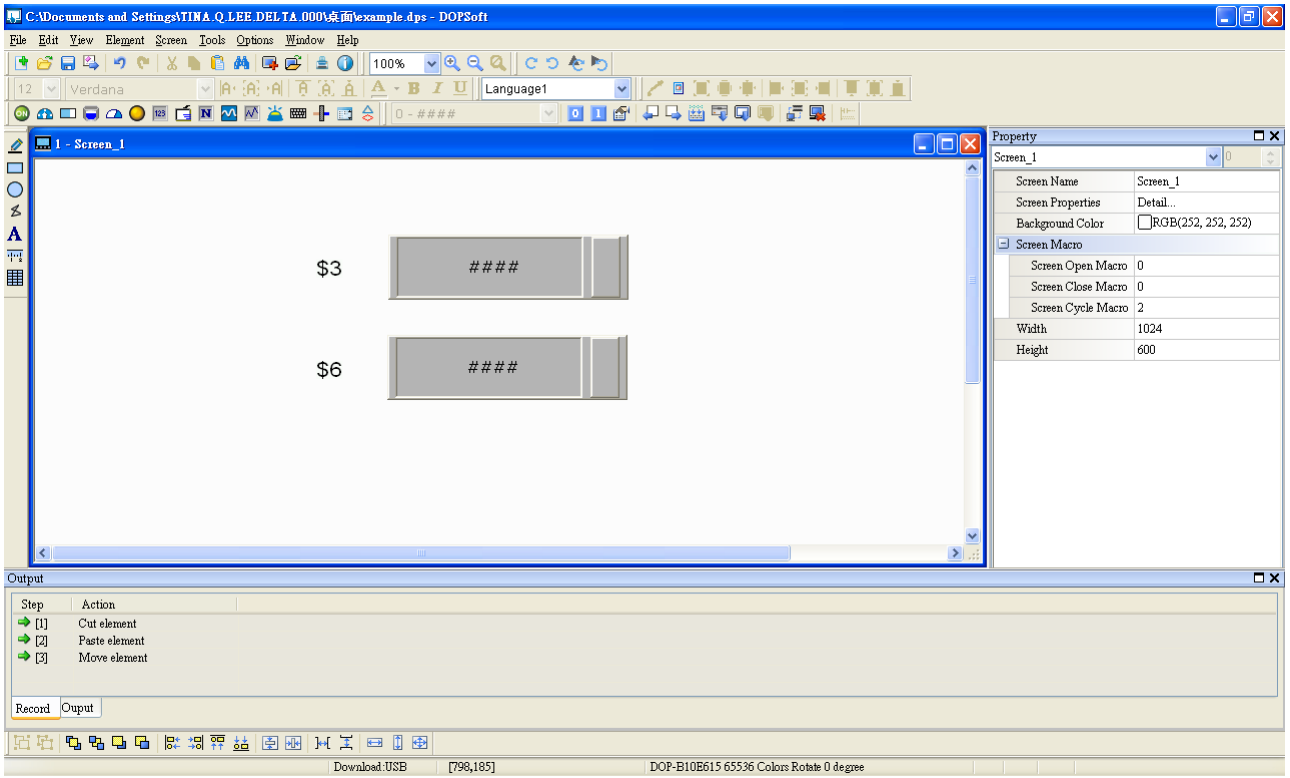
Before creating testing example, make sure to change the upload and download option (**Options > Environment**) on DOPSoft first. The default setting of upload and download is via **USB**. If the users need to use **Ethernet**, please change the default setting by referring to **Appendix A**.

5.1 Example

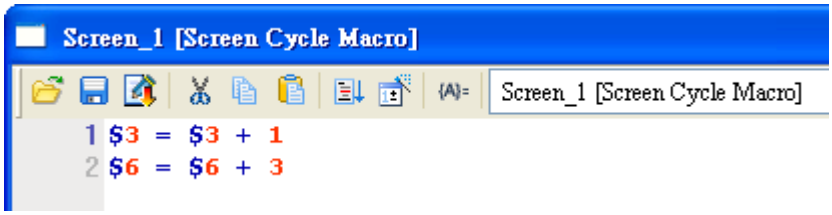
This example is used to help the users to understand how to use eServer to read the data of the register addresses $3 and $6 every second, record the data in Excel report file; meanwhile, calculate the average value of the register addresses $3 and $6 by using Excel formula and save the collected data in the specified folder (C:\Data).

5.1.1 Create HMI Project File

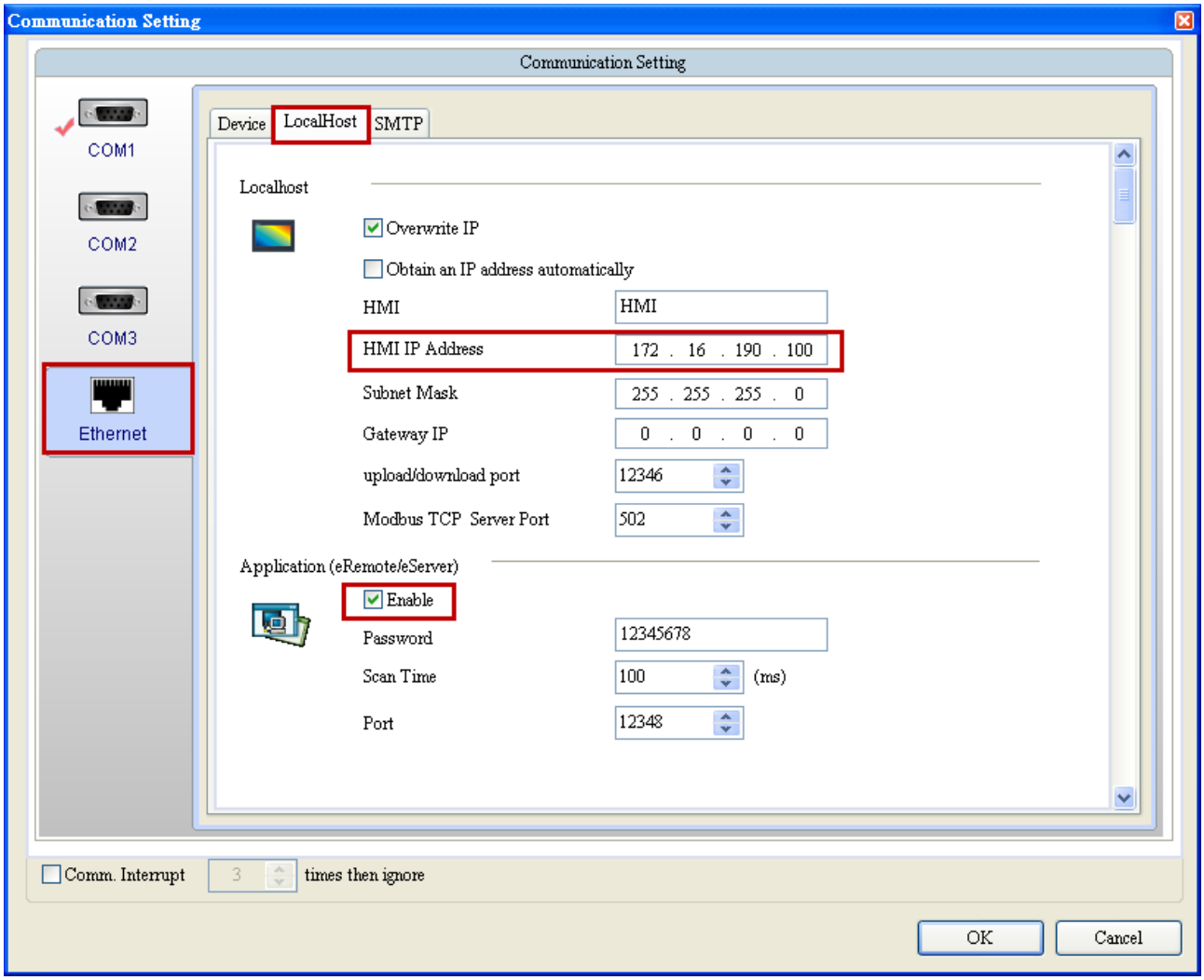
Start DOPSoft Software program and click **File > New** or click **New** icon to create a new project. Then, click **Element > Input > Numeric Entry** to create two numeric entry elements ($3 and $6) on the screen. In this case, 10 inches color B10E615 type DOP series HMI is used.



Use Screen Cycle Macro and enter the following commands in macro command window.



Click **Options > Communication Setting > Ethernet > LocalHost,** set HMI IP Address and check the Application(eRemote / eServer) function **Enable.** Then, press **OK** button to finish the settings.

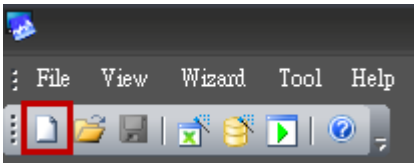


5.1.2 eServer Setting

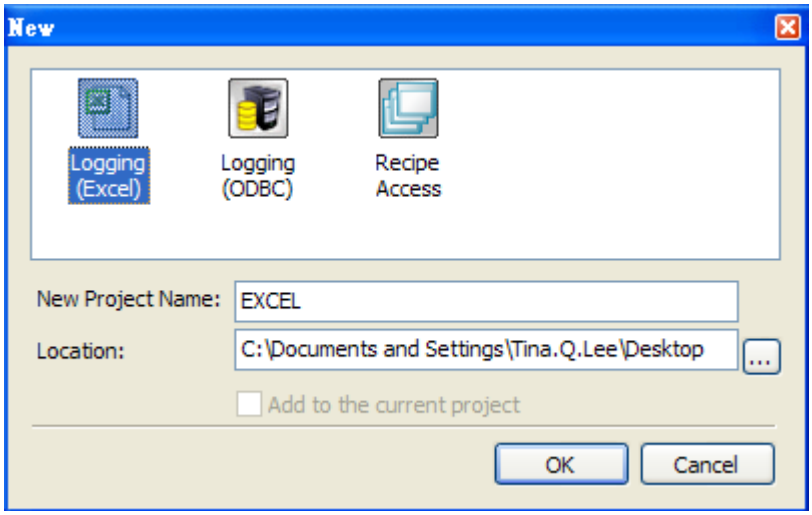
1. After eServer is started, eServer window will open.



3. Click **File > New** or click  icon to create a new project file.



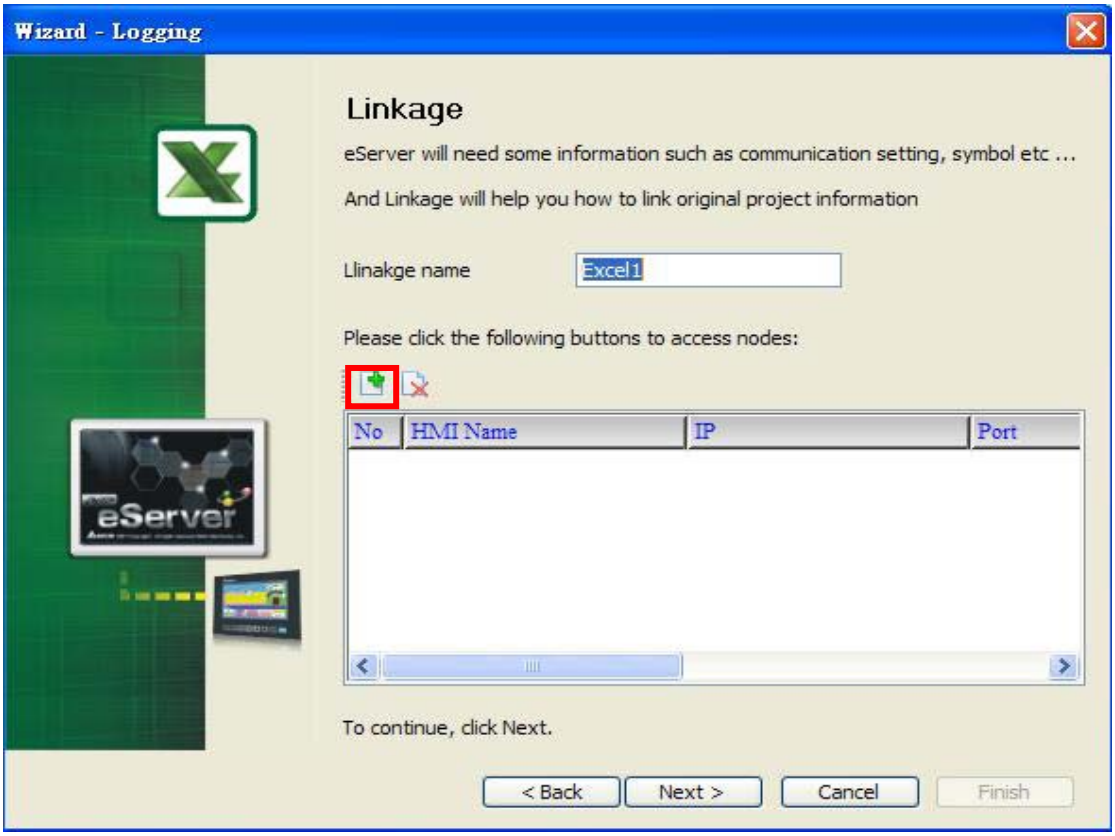
4. Select  icon to enable Excel Logging (Sampling) Wizard.



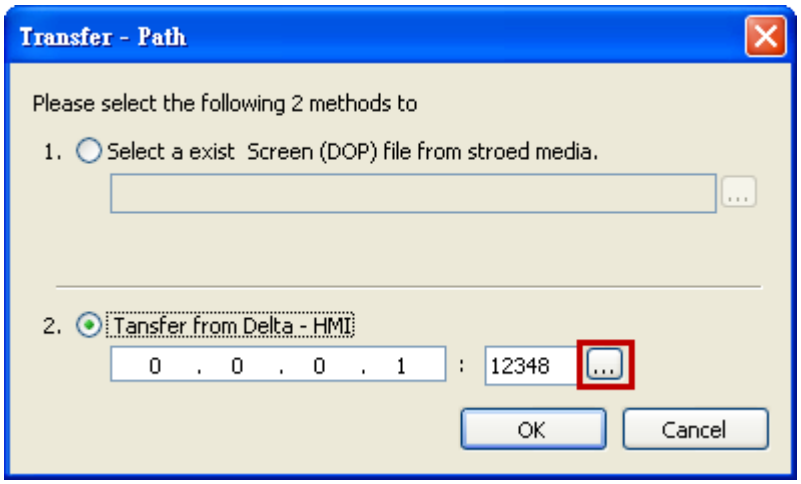


Press **Next** button to go to next step.

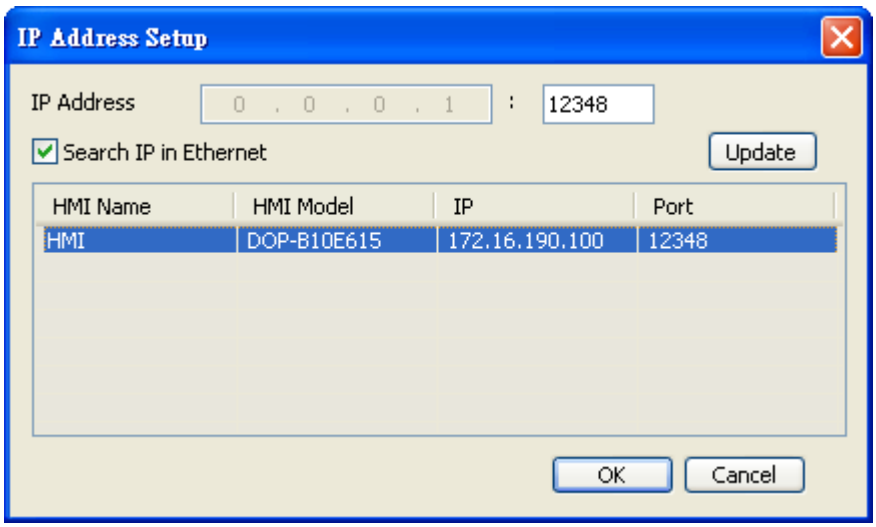
5. Click **New** icon to access nodes (link to HMI).



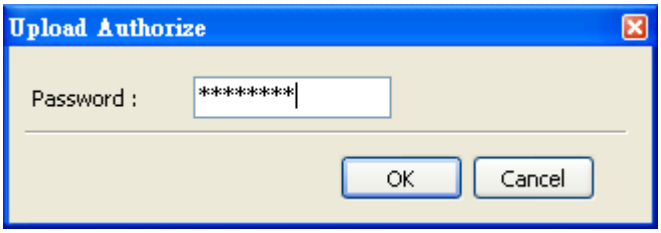
Choose **Transfer from Delta – HMI** option to transfer the HMI screen project file via network communication directly.



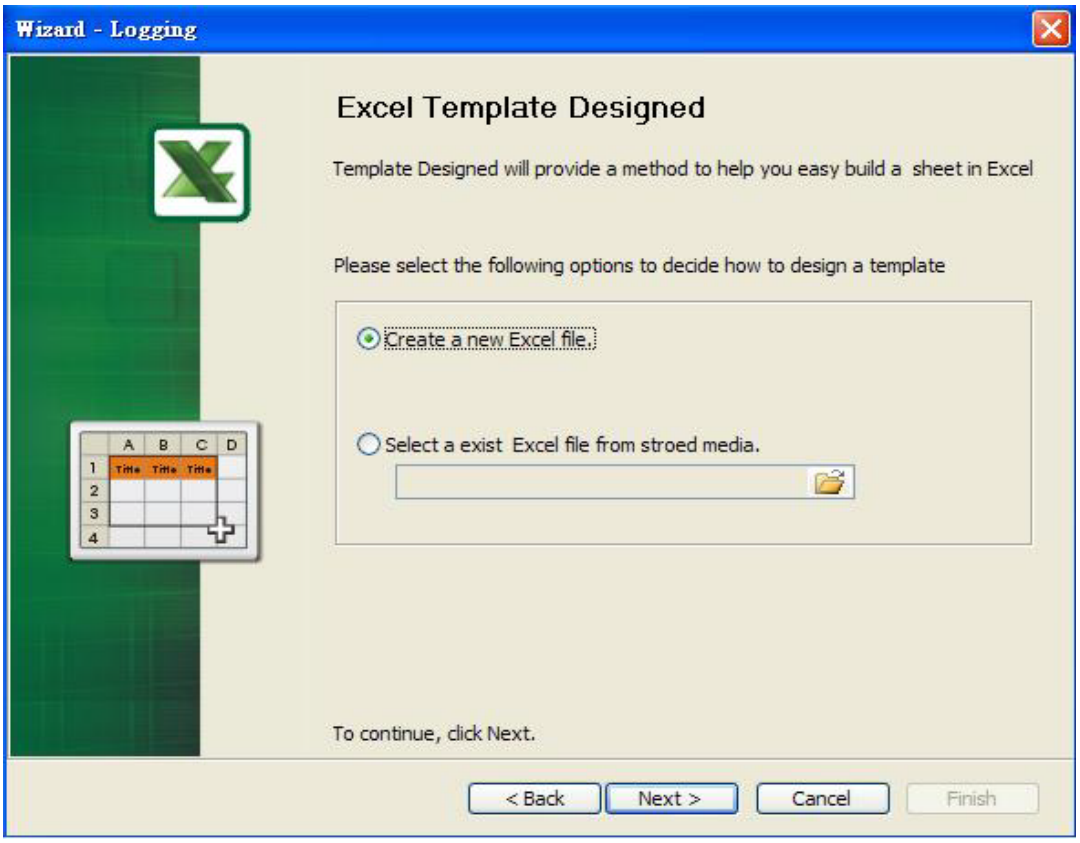
After searching HMI IP in Ethernet, select HMI Name is HMI, IP is 172.16.190.100, press **OK**.



eServer will ask user to input the authorize password to connected with HMI. (The default password is 12345678.)

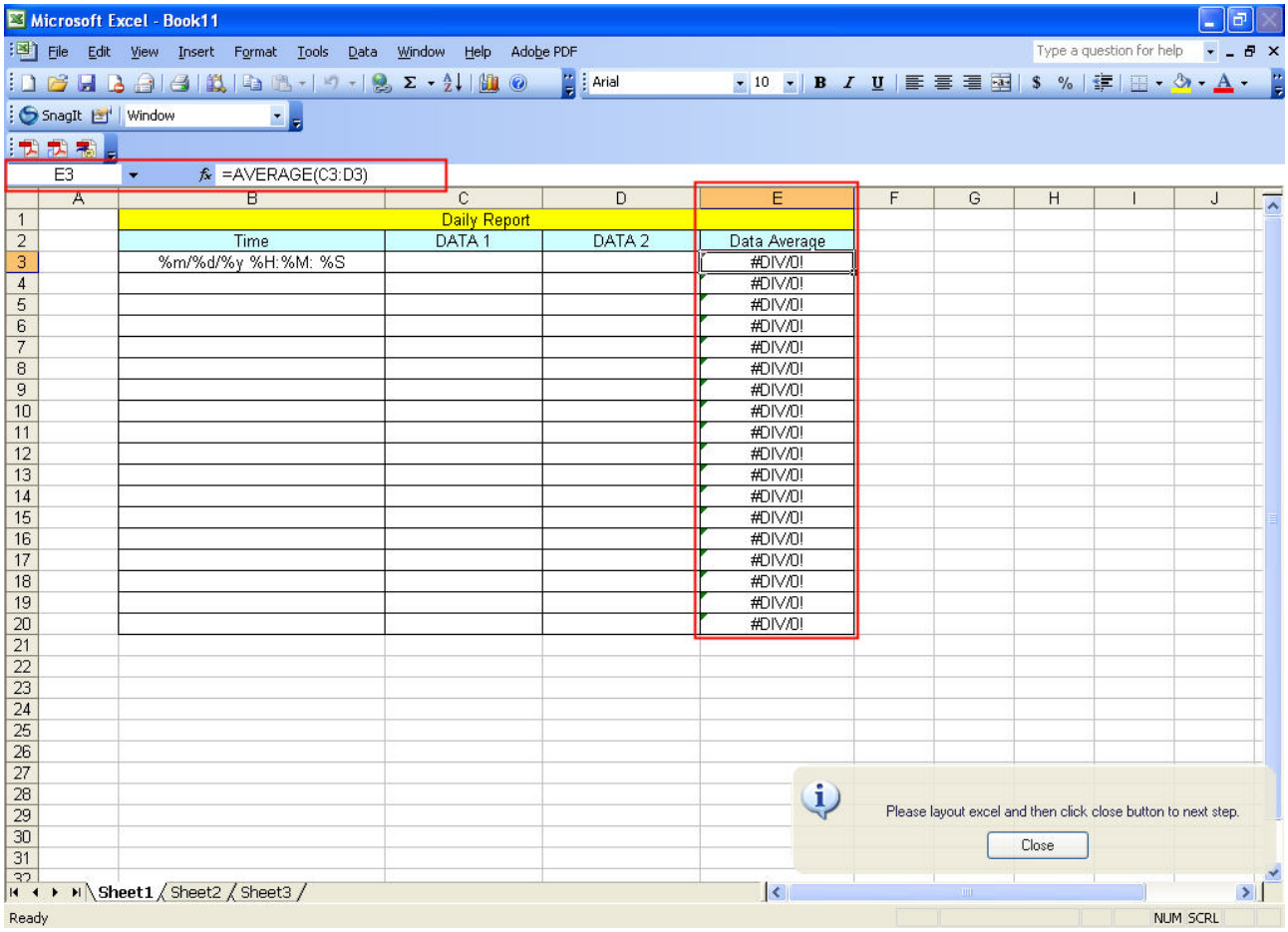


6. Design Excel template sheet. Select **Create a new Excel file** option and press **Next** button to go to next step.



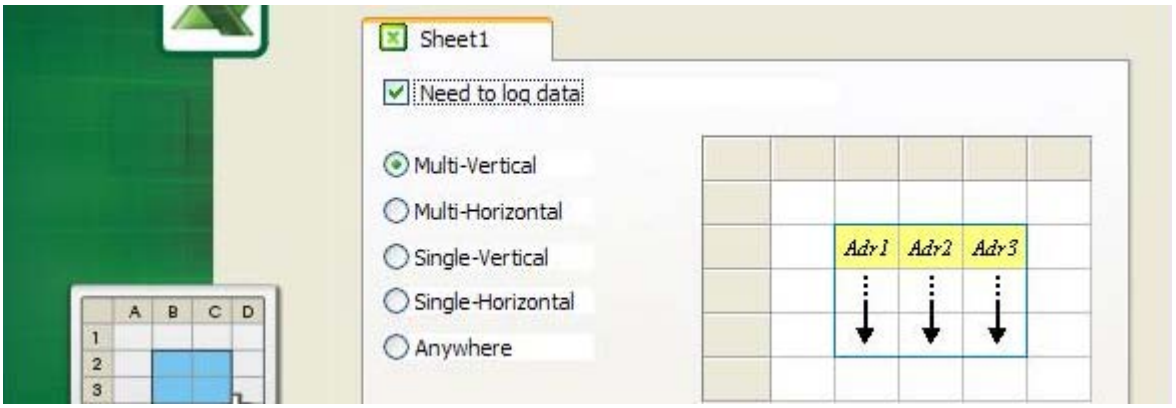
The system will enable Excel automatically. Create a Excel template sheet as the figure below and enter the following formulas into the cells of E3 ~ E20 in order. Then, press Close button in the dialog box which appears at the bottom right of Windows screen to go to next step.

Column	Formula	Column	Formula
E3	=AVERAGE(C3:D3)	E12	=AVERAGE(C12:D12)
E4	=AVERAGE(C4:D4)	E13	=AVERAGE(C13:D13)
E5	=AVERAGE(C5:D5)	E14	=AVERAGE(C14:D14)
E6	=AVERAGE(C6:D6)	E15	=AVERAGE(C15:D15)
E7	=AVERAGE(C7:D7)	E16	=AVERAGE(C16:D16)
E8	=AVERAGE(C8:D8)	E17	=AVERAGE(C17:D17)
E9	=AVERAGE(C9:D9)	E18	=AVERAGE(C18:D18)
E10	=AVERAGE(C10:D10)	E19	=AVERAGE(C19:D19)
E11	=AVERAGE(C11:D11)	E20	=AVERAGE(C20:D20)

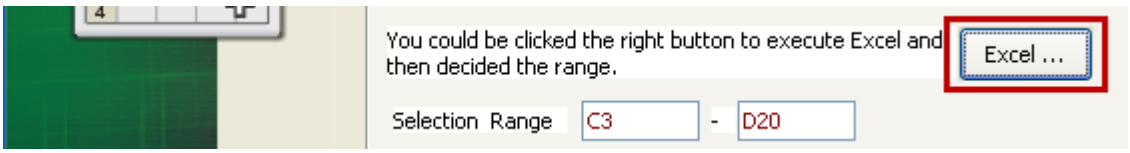


7. Excel Logging Range Setting

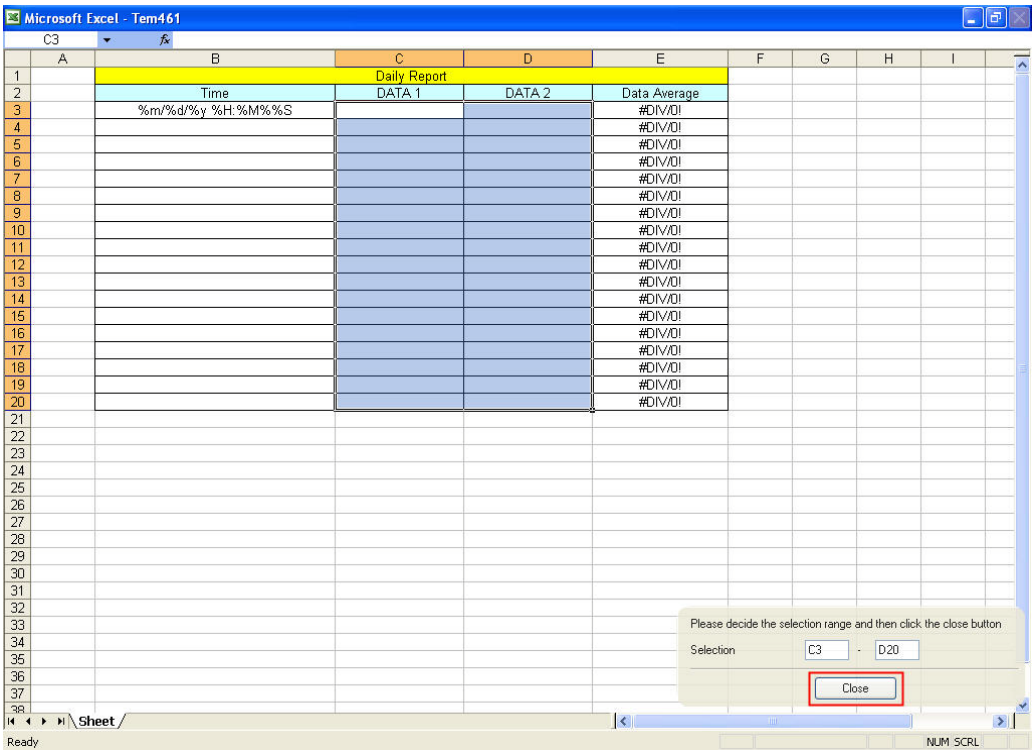
7.1 Set the sampling direction as **Multi-Vertical**.



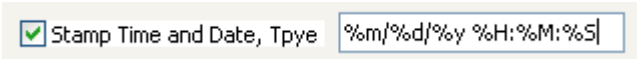
7.2 Press **Excel** button and the system will open the editing Excel template sheet immediately.



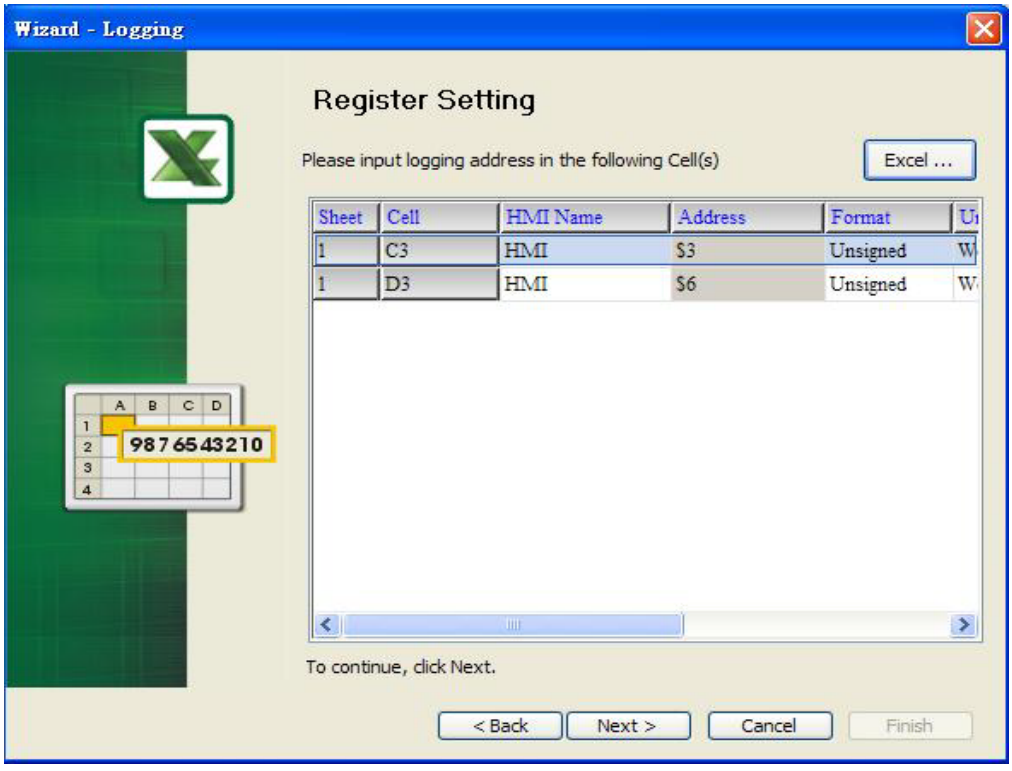
7.3 In Excel template sheet, the users can drag the mouse to select the selection range. In this case, C3 ~ D20 is selected. Then, press **Close** button to finish.



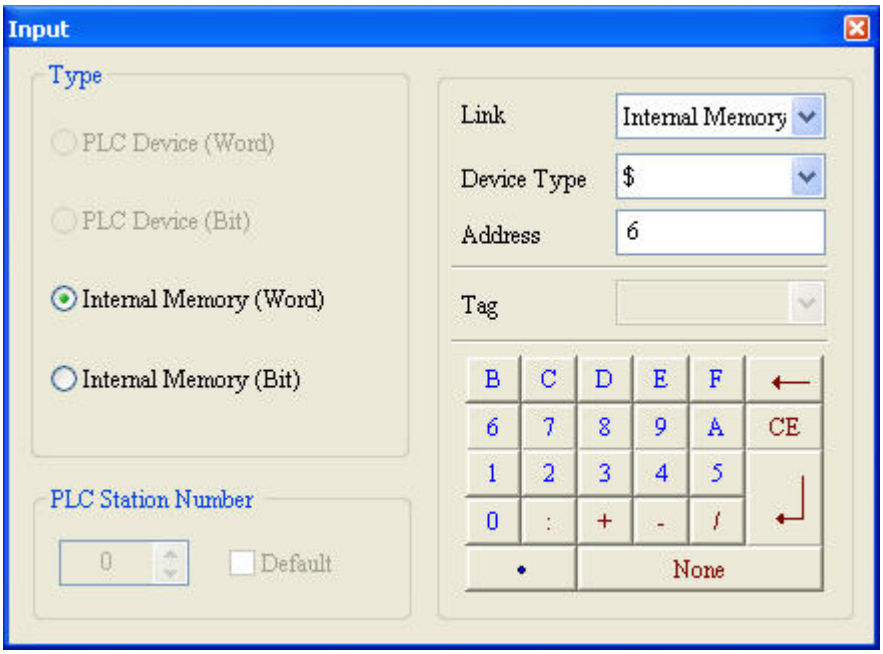
7.4 Check the check box before **Enable Stamp Time and Date** function and change the format to **%m/%d/%y %H:%M:%S**. Once the sampling operation is enabled, the sampling date and time will be recorded into the cells of B3 ~B20.



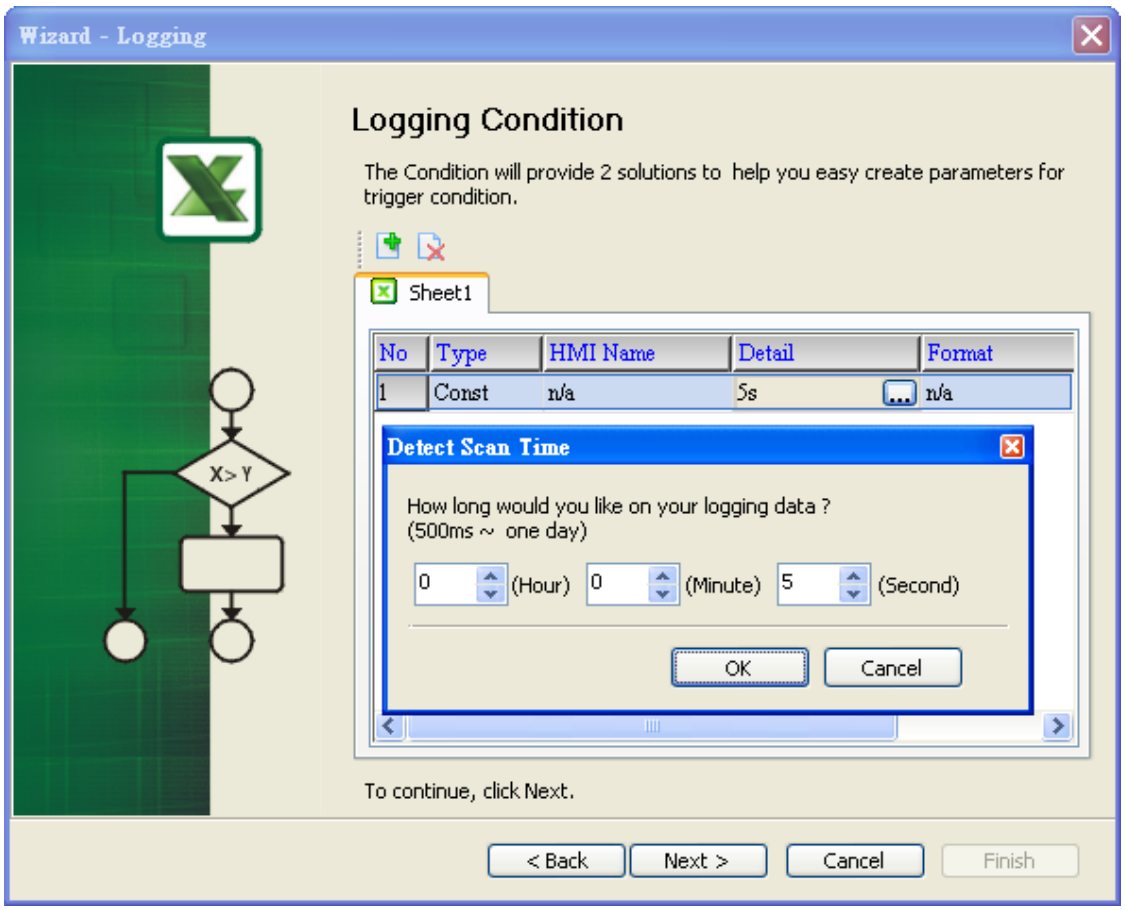
8. Set the register addresses.



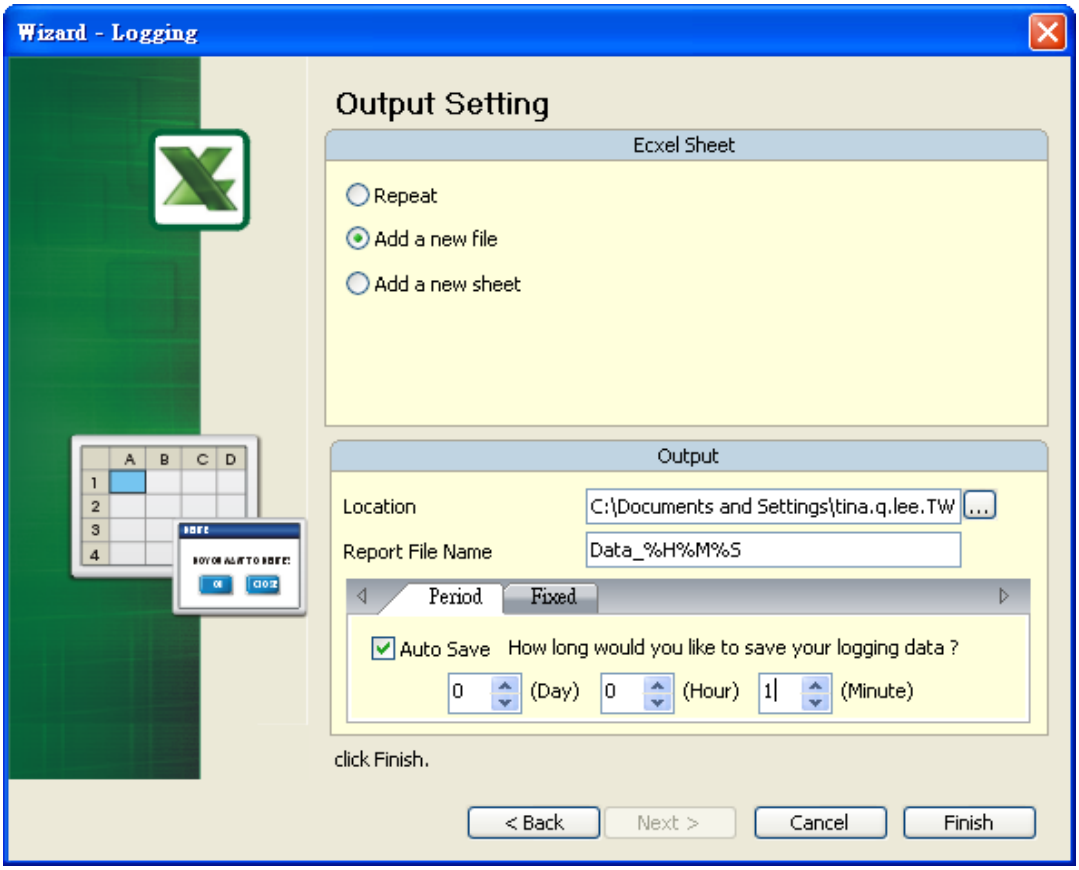
Use the following dialog box to set the sampling register addresses.



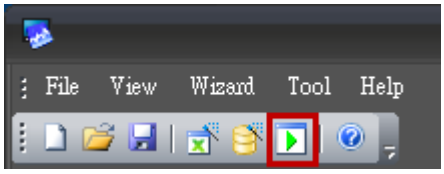
9. Set Logging Condition (Sampling Time) to **5s**.



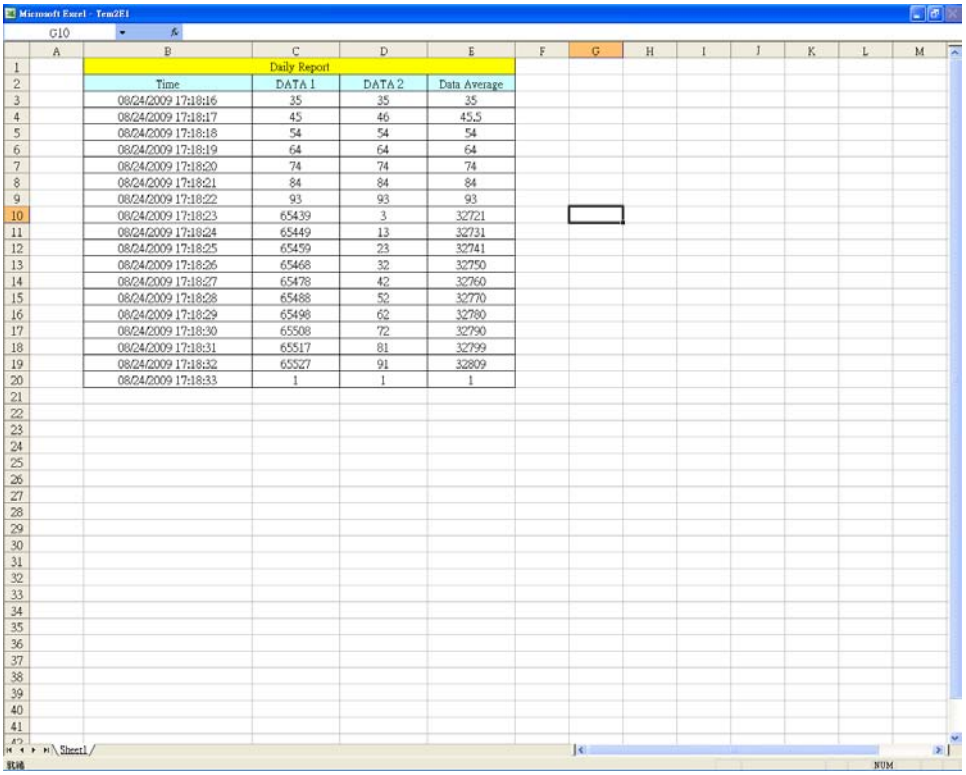
10. Choose **Add a new file** in Excel Sheet and define the file location and file name shown as the figure below. Selected **Period** in **Auto Save** and set **one minute**, then press **Finish** button to complete the settings.



11. Press  icon and enter the password 12345678. Then, the system will start sampling operation, i.e. writing data in Excel file.

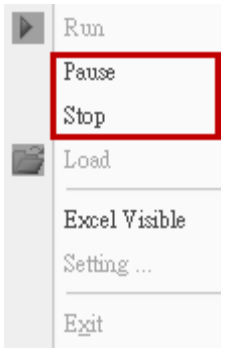






	A	B	C	D	E	F	G	H	I	J	K	L	M
1		Daily Report											
2		Time	DATA 1	DATA 2	Data Average								
3		08/24/2009 17:18:16	35	35	35								
4		08/24/2009 17:18:17	45	46	45.5								
5		08/24/2009 17:18:18	54	54	54								
6		08/24/2009 17:18:19	64	64	64								
7		08/24/2009 17:18:20	74	74	74								
8		08/24/2009 17:18:21	84	84	84								
9		08/24/2009 17:18:22	93	93	93								
10		08/24/2009 17:18:23	65439	3	32721								
11		08/24/2009 17:18:24	65449	13	32731								
12		08/24/2009 17:18:25	65459	23	32741								
13		08/24/2009 17:18:26	65468	32	32750								
14		08/24/2009 17:18:27	65478	42	32760								
15		08/24/2009 17:18:28	65488	52	32770								
16		08/24/2009 17:18:29	65498	62	32780								
17		08/24/2009 17:18:30	65508	72	32790								
18		08/24/2009 17:18:31	65517	81	32799								
19		08/24/2009 17:18:32	65527	91	32809								
20		08/24/2009 17:18:33	1	1	1								

12. If the users want to pause or stop the sampling operation, only right-click eServer icon at the bottom right of Windows screen and select **Pause** or **Stop** option from the pop-up menu, the sampling operation will pause and stop immediately. The users also can use **Excel Visible** option to decide whether the Excel window displays on the screen or not.



Chapter 6 ODBC Sampling Setting

6.1 Detailed Settings

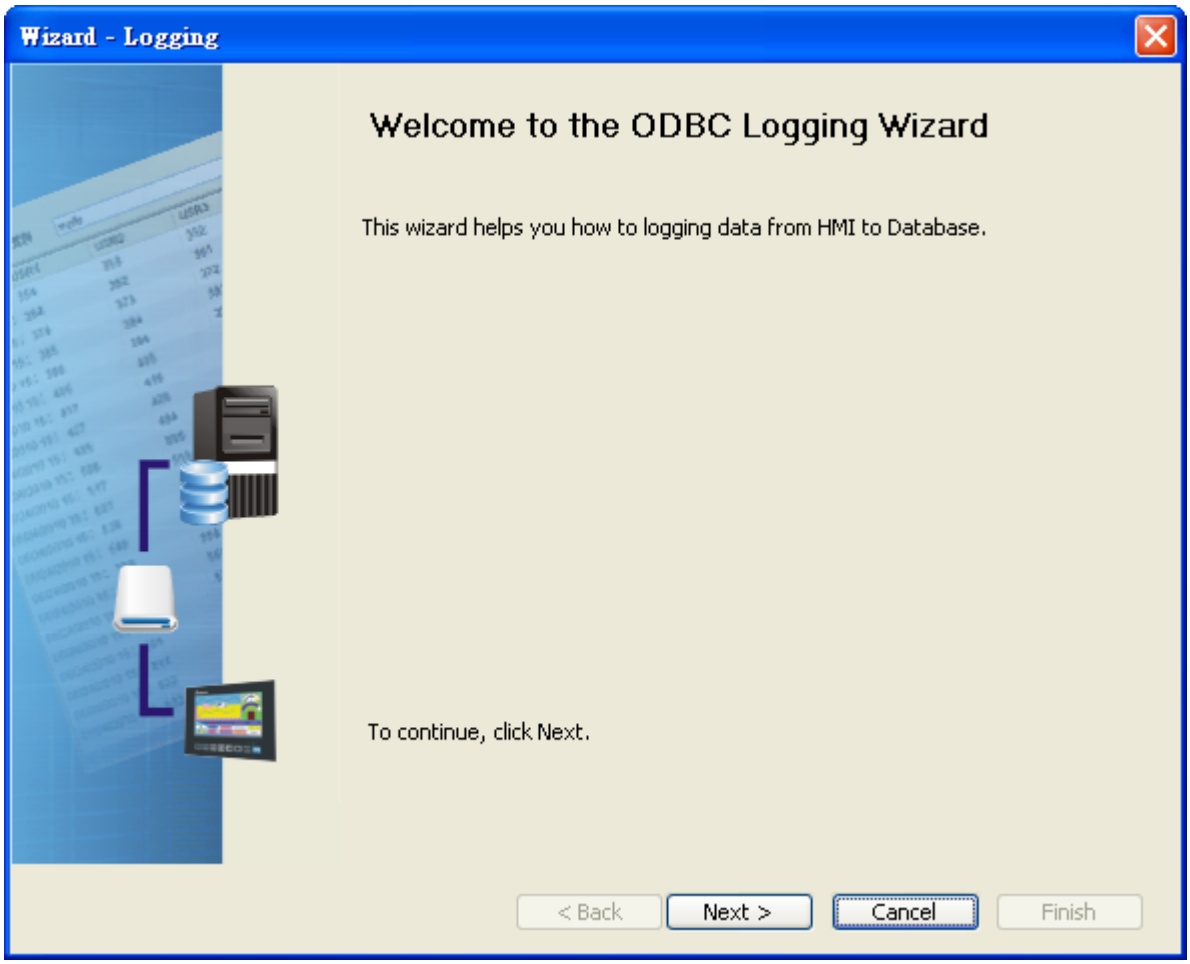
Please refer to the following steps to complete ODBC sampling setting, i.e. how to log data from HMI to a database.

6.1.1 Linkage

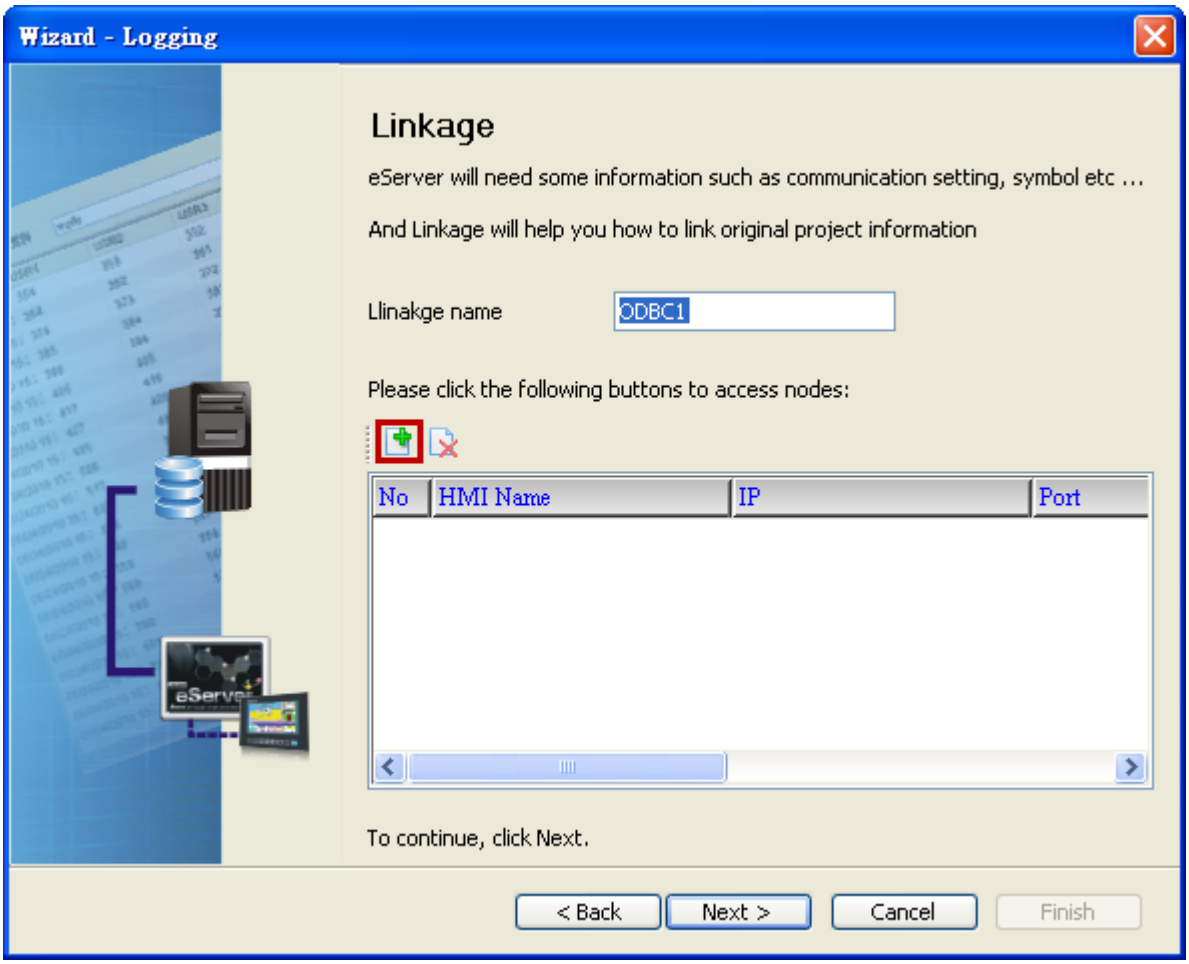
Start eServer, and click **File > New** or click **New** icon After the **New** dialog box is opened, select **Logging (ODBC)** icon and press **OK** button.

Then, the **ODBC Logging Wizard** will be activated and the following dialog box will appear.

Press **Next** button to continue.

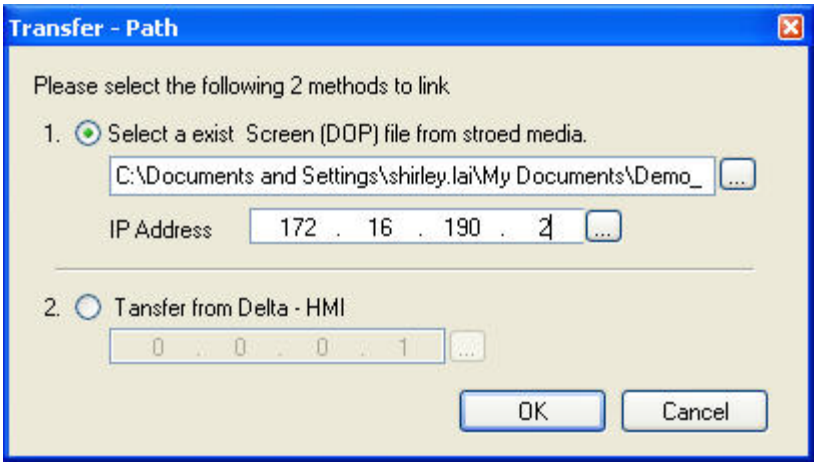


Click **New** icon to access nodes (link to HMI).

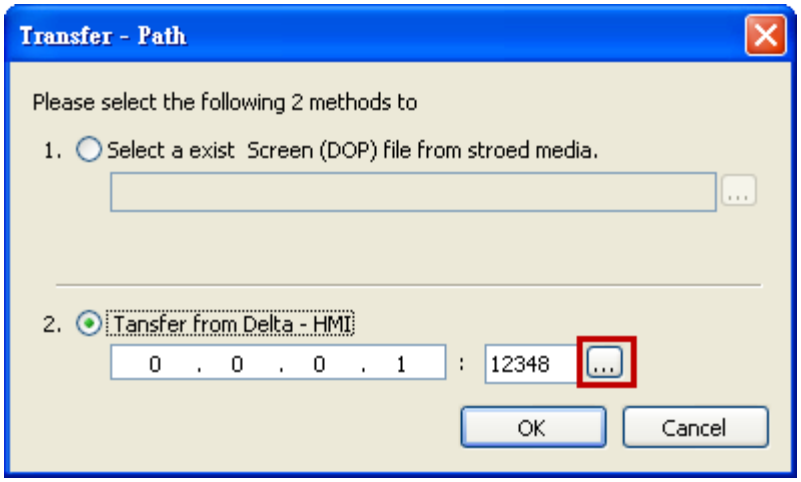


Click  icon to link HMI screen project file. There are two methods available for selection:

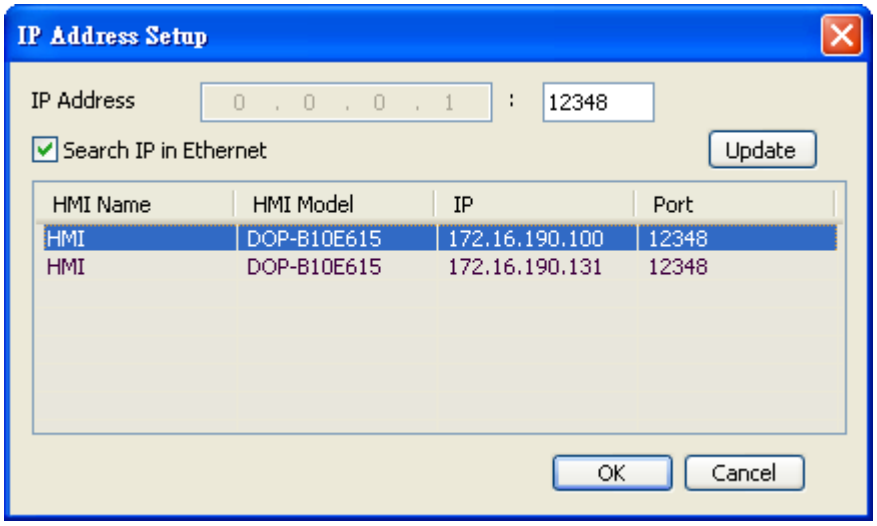
1. Select an existing Screen (DOP) file from stored media: Open an existing screen project file and set the IP address of the connecting HMI.



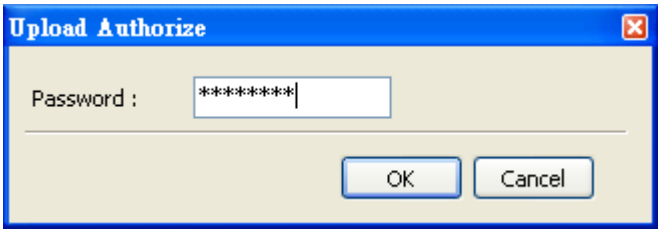
2. Transfer from Delta – HMI: Transfer the HMI screen project file via network communication directly.



After searching finished, press select wanted HMI then press **OK** button.

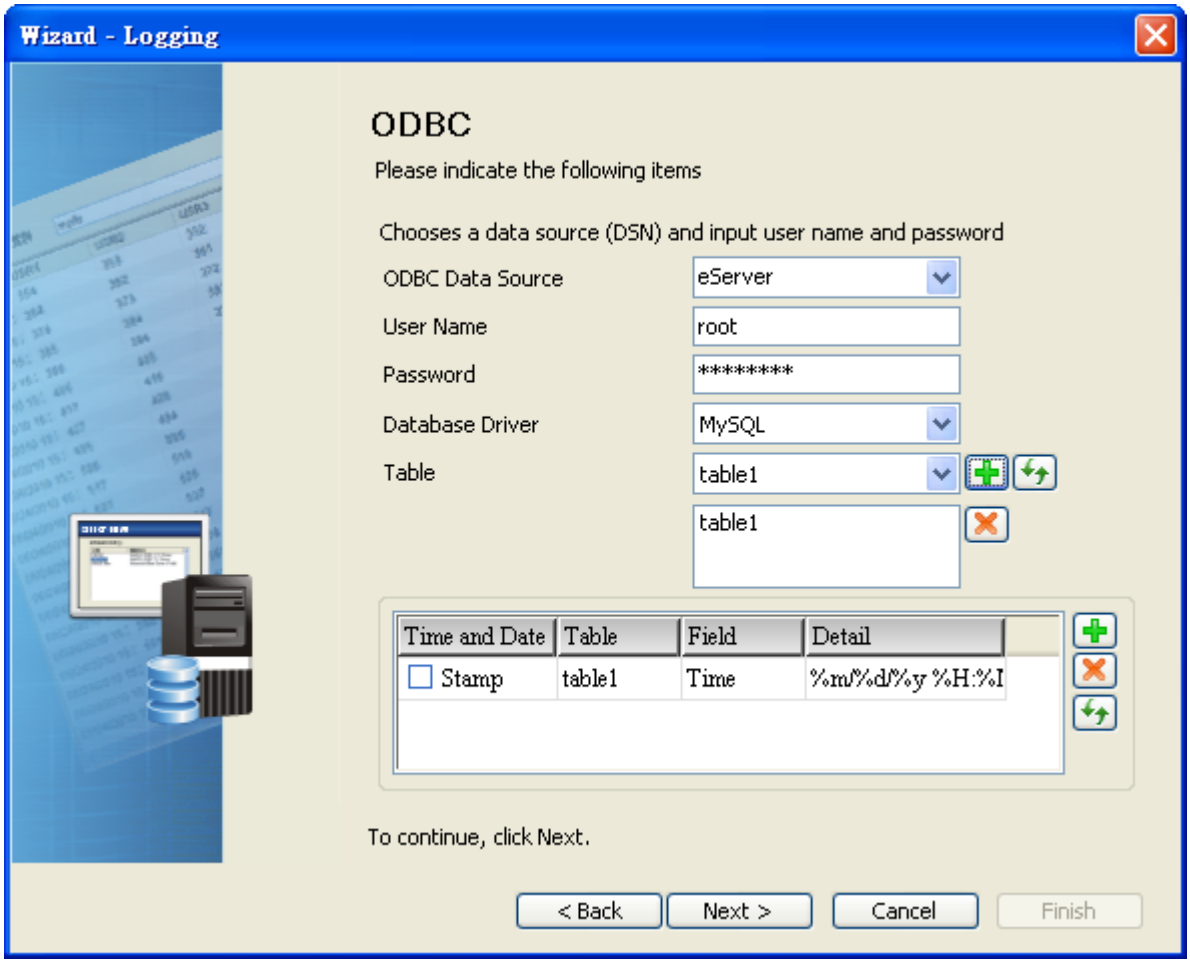


eServer will ask user to input authorize password to upload HMI project. The default security password is **12345678**. After input password finished, press **OK**.



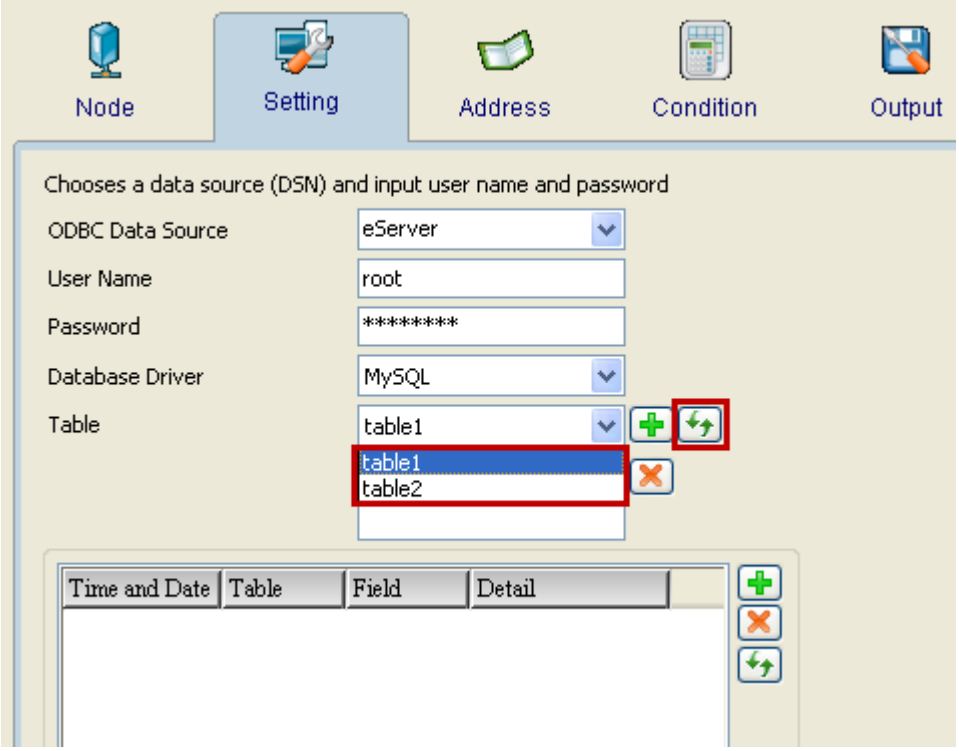
6.1.2 ODBC (Open Data Base Connectivity)

This step is used to create an ODBC Data Source pointing to your database.

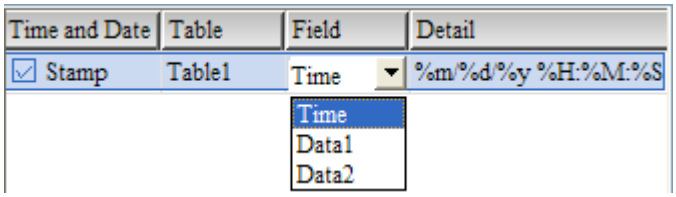


Item	Explanation
ODBC Data Source	Name of ODBC Data Source
User Name	Login Username
Password	Login Password
Database Driver	Select wanted connection Database, like MySQL, SQL Server and Oracle.
Table	Name of Sampling Data Table

ODBC sampling setting provide refresh button. This function could help user to select the table after press this refresh button in Wizard setting.



Time and Data Stamp Function:

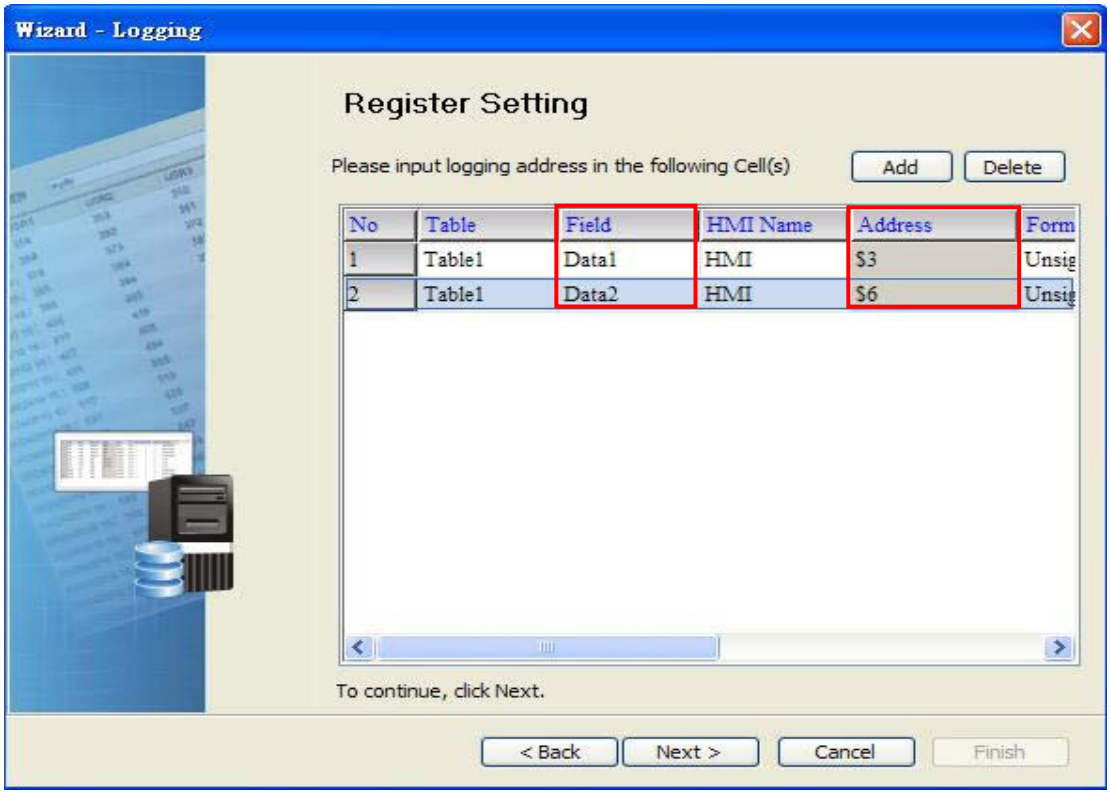


Item	Explanation
Time and Date	Choose if Time and Date Stamp function is enabled.
Table	Table which the time and date will be written.
Field	Field which the time and date will be written.
Detail	The format of the date and time is specified by a string of characters which can be user-defined and changed freely. Please refer to the table below for the string representation.

String Format	Representation
%m	Month
%d	Date
%y	Year
%H	Hour
%M	Minute
%S	Second

6.1.3 Register Setting

This step is used to set the register address of the sampling data.



Setting Item	Description	Remark
Table	Table which the sampling data will be written	
Field	Field which the sampling data will be written	
HMI Name	Name of connecting HMI	
Address	Register Address	
Format	1. When the register address is set to Bit, this data format setting will be disabled. 2. When the register address is set to Word, this data format setting will be enabled and the available settings include: BCD, Signed, Unsigned, Hex, Floating, Char (Character)	
Unit	Unit of the data length of the register	Unchangeable
Read Count	1. When the register address is set to Bit, this setting will be 1(one) always. 2. When the register address is set to Word, if the data format is set to BCD, Signed, Unsigned, Hex, and Floating, the setting value of this field could not exceed 2(two). 3. When the register address is set to Word, if the data format is set to Char (Character), the setting value of this field could be user-defined and the max. setting value could be set to 100(hundred).	

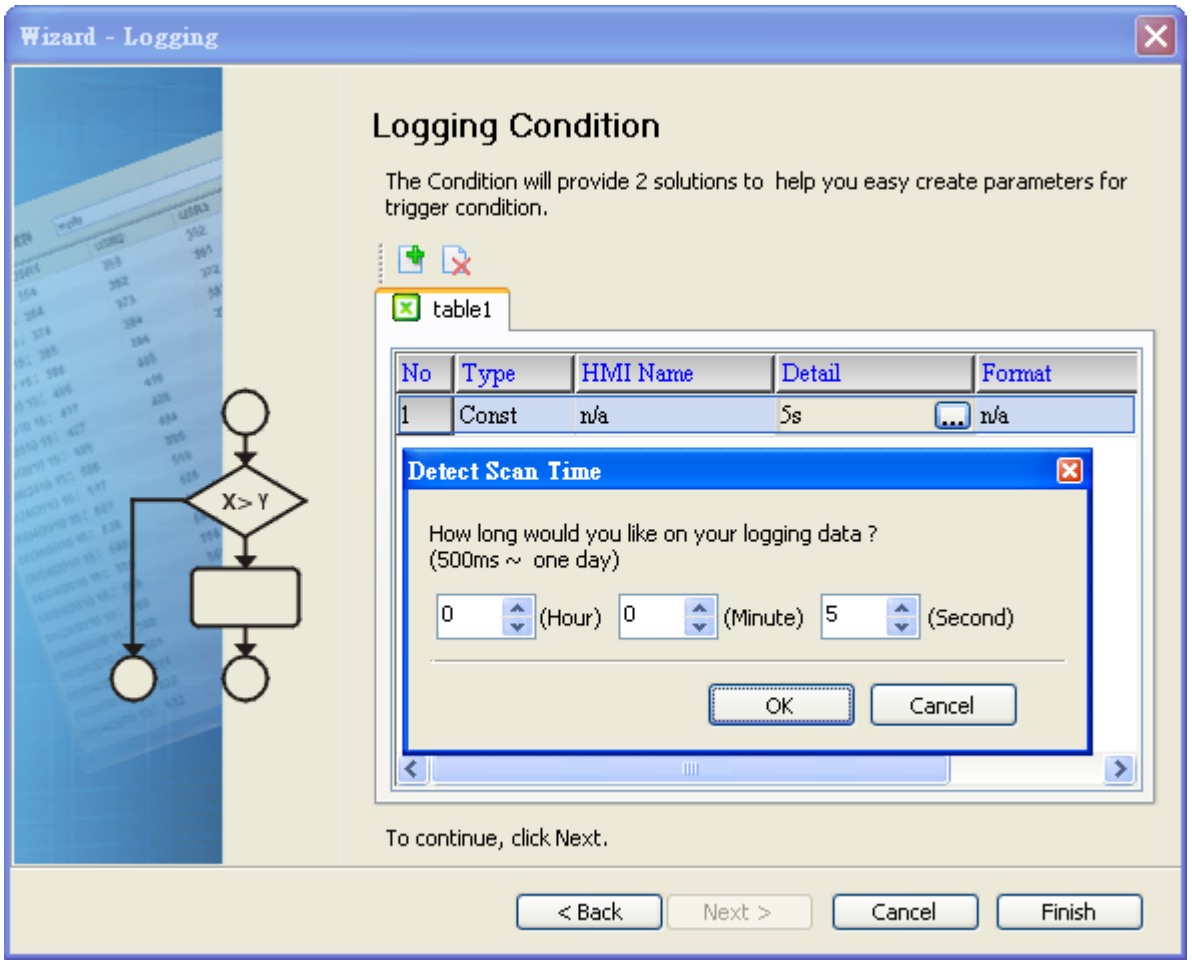
Setting Item	Description	Remark
Integer	1. If the register address is set to Bit, this integer setting cannot be set. 2. If the register address is set to Word, except Floating and Char(Character), when the other format is selected, this integer setting can be set. 3. When Read Count is 2, Format is floating, it can be set Integer.	
Fraction	1. If the register address is set to Bit, this fraction setting cannot be set. 2. If the register address is set to Word, except Floating and Char(Character), when the other format is selected, this fraction setting can be set. 3. When Read Count is 2, Format is floating, it can be set Fraction.	
Controller	Connecting controller	Unchangeable

6.1.4 Sampling Conditions

This step is used to set the sampling conditions. There are two kinds of options for selection:

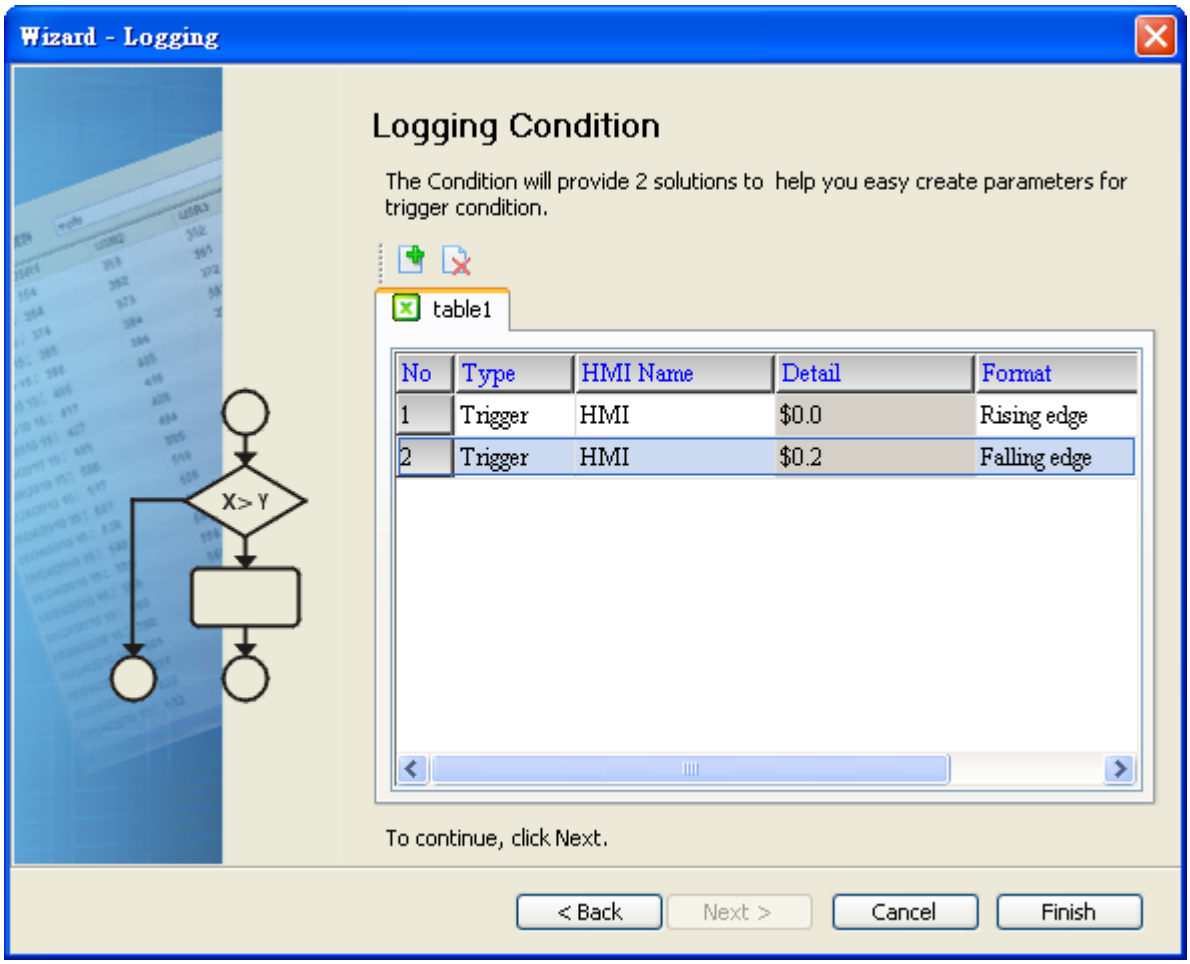
1. Const (execute sampling repeatedly in a certain span of time)

   This option is used to determine how long the sampling process is repeated. The time unit can be defined as ms, second, minute or hour.



2. Trigger (Execute sampling when the trigger conditions are satisfied)

   This option is used to determine how long the sampling process is repeated when the trigger conditions are met. The detailed settings are described as follows:



Polling Cycle (Sampling Cycle): It is used to determine how long the sampling process is repeated. The time unit is ms.

Logging Condition:

Setting Item	Description	Remark
No.	Condition number	Unchangeable
Type	Sampling type. There are two kinds of options for selection: Const and Trigger. Const: Execute sampling repeatedly in a certain span of time. Trigger: Execute sampling when the trigger conditions are satisfied.	
HMI Name	Name of connecting HMI	
Detail	Register Address	
Format	1. When the register address is set to Bit, the selectable options are: A. Rising edge: Triggered by rising-edge B. Falling edge Triggered by falling-edge	
Controller	Connecting controller	Unchangeable

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Chapter 7 Writing Data in Microsoft Access 2003 at XP Operating System

Before creating testing example, make sure to change the upload and download option (**Options > Environment**) on DOPSoft first. The default setting of upload and download is via **USB**. If the users need to use **Ethernet**, please change the default setting by referring to **Appendix A**.

7.1 Example

This example is used to help the users to understand how to use eServer to read the data of the register addresses $3 and $6 every second, record the data in Microsoft Access database via ODBC interface, and save the collected data into the specified folder (C:\Data).

7.1.1 Database Setting

1. Installing MSDE

   First download the free software MSDE from the Microsoft web site. To download it, go to http://www.microsoft.com/downloads/details.aspx?familyid=413744d1-a0bc-479f-bafa-e4b278eb9147&displaylang=zh-tw#filelist and a download link will redirect the users to download it.

   After running the self-extracting file, open **setup.ini** file within MSDE subdirectory for editing.

   In the **setup.ini** file under the **[Options]** tag insert:

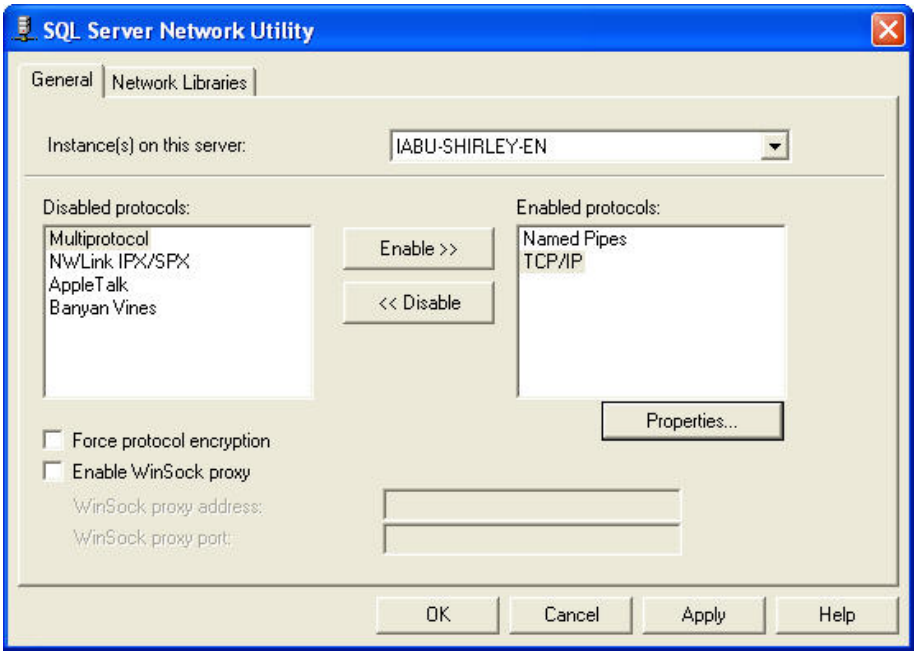
   SAPWD="0000"

   SECURITYMODE="SQL"

   The SAPWD is the password required for the system administrator (SA) login account. In this case, the SA login password is set to **0000**. The users can set the desired password freely. Once the setup.ini file is saved, double-click setup.exe to complete MSDE installation.

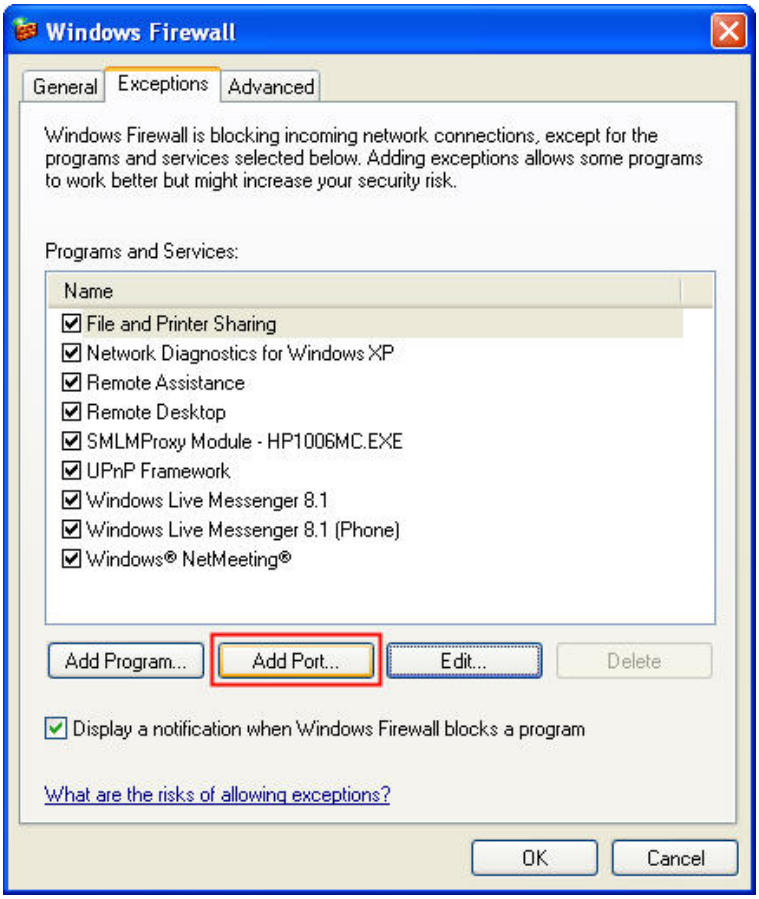
2. Enabling MSDE

Execute **SVRNETCN.exe** ( ) within C:\Program Files\Microsoft SQL Server\80\Tools\Binn subdirectory and enable **Named Pipes** and **TCP/IP** options.

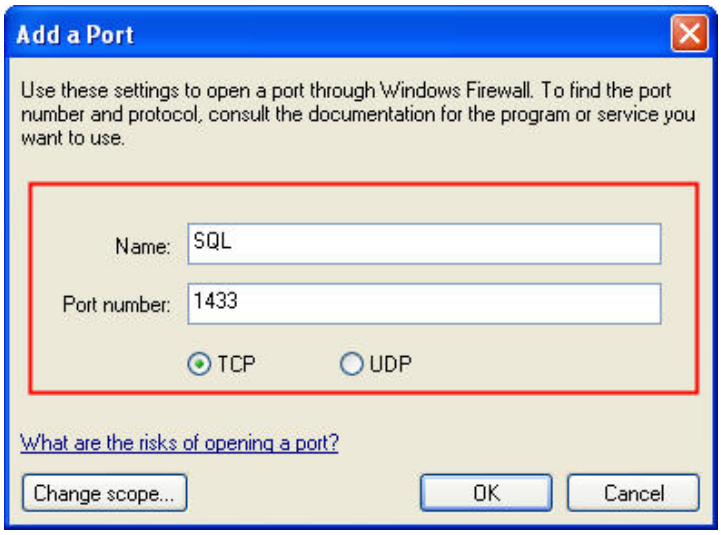


3. Setting Windows Firewall

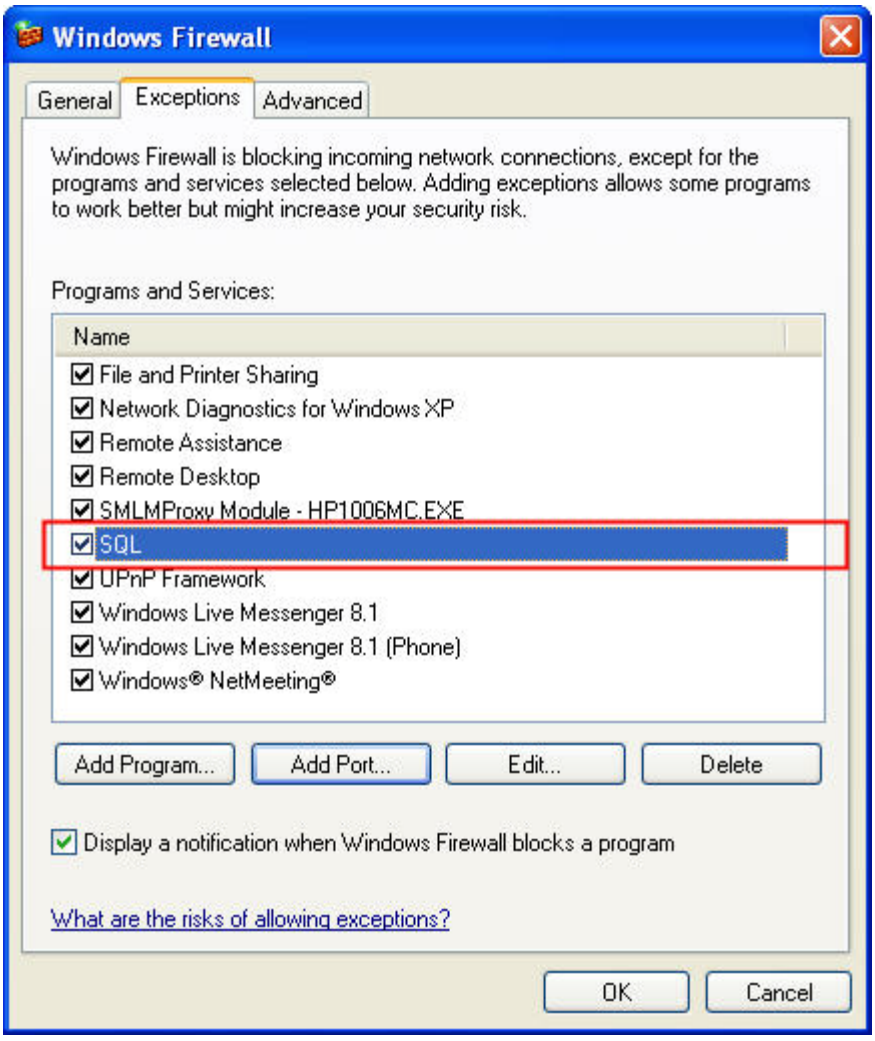
Click **Start** and then click **Control Panel**. In the **Control Panel**, click **Windows Security Center > Windows Firewall**. Then, click on the **Exceptions** tab.



Click **Add Port** button and the following **Add a Port** dialog box will appear.

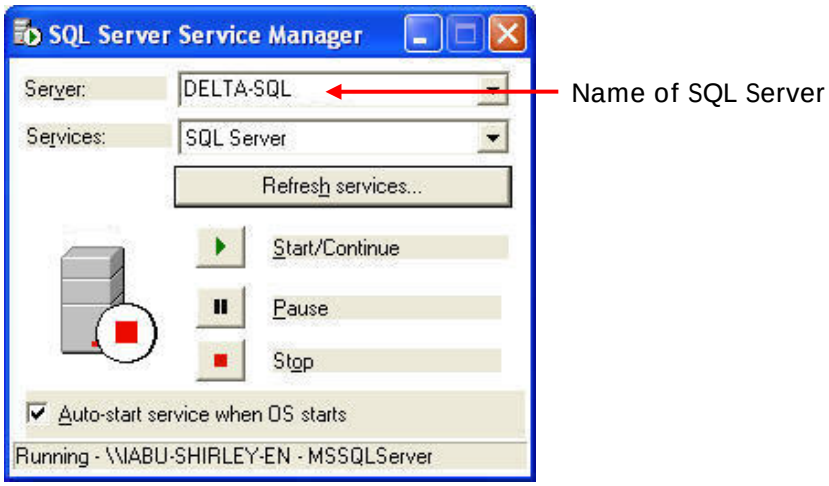


In the Add a Port dialog box, type SQL in the Name text field and type the port number of the instance of the Database Engine, such as 1433 for the default instance in the Port number text field. Ensure that TCP is selected and click OK to complete the settings. When SQL port is shown and selected in Windows Firewall dialog box, it indicates that SQL Server port will not be blocked and the incoming connections to SQL Server will be allowed.



4. Activating SQL Server

Double-click the  located at the bottom right of Windows screen to open the following **SQL Server Service Manager** dialog box and click **Start/Continue** button.

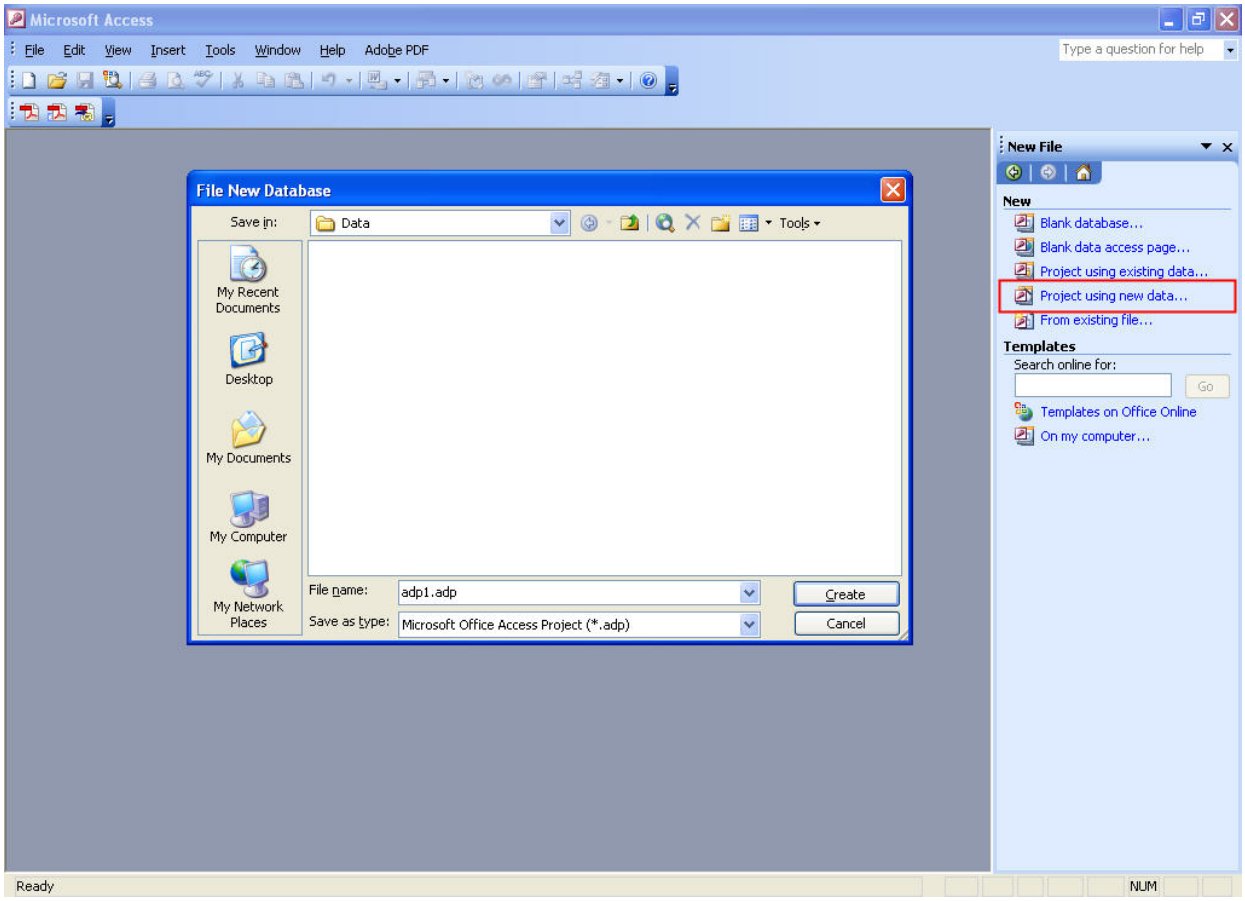


5. Starting Microsoft Access

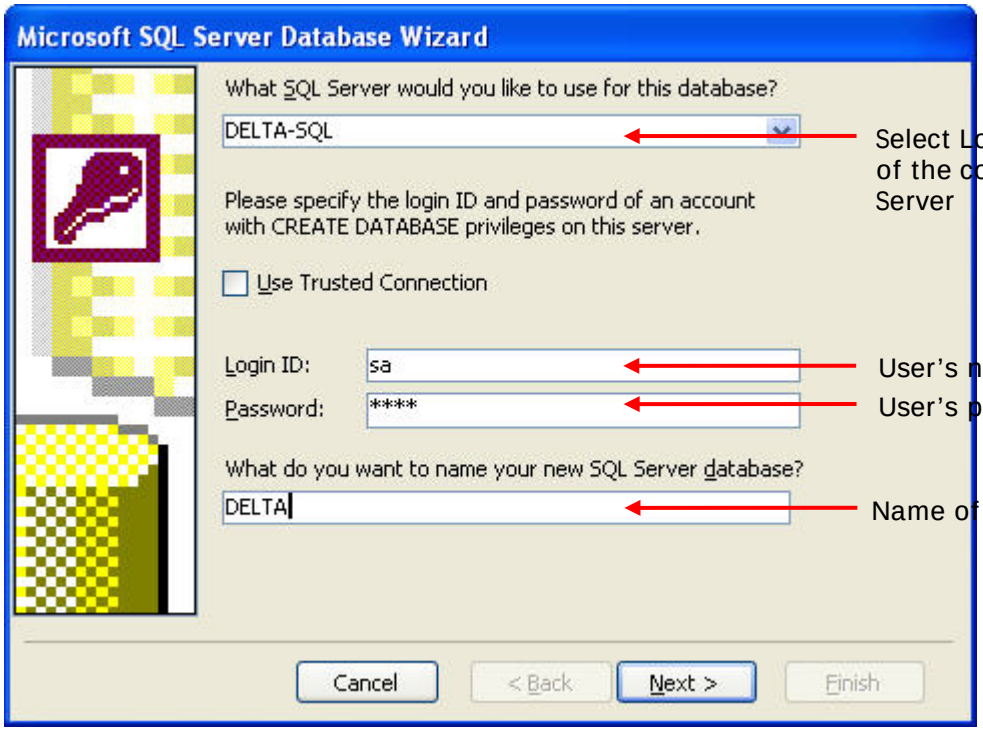
Start Microsoft Access by clicking **Start > Programs > Microsoft Office > Microsoft Office Access**.



Then, click **New** icon and choose **Project using new data** to open a new database file and set the directory to C:\Data.



Press **Create** button to enable Microsoft SQL Server Database Wizard.



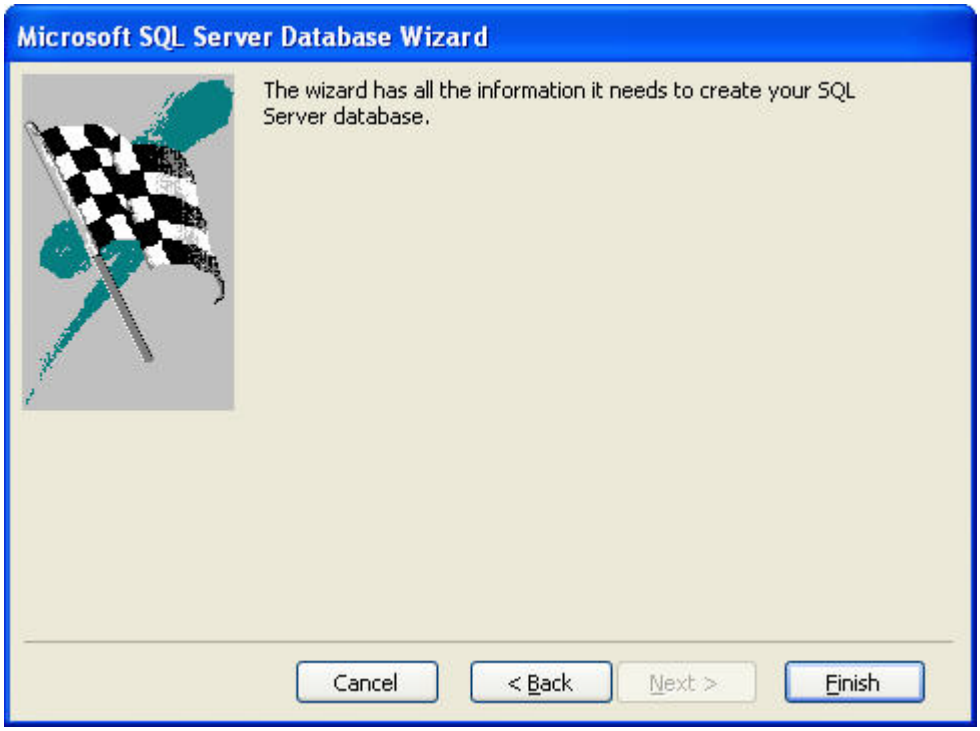
Select Local or the name of the connecting SQL Server

User's name: sa

User's password: 0000

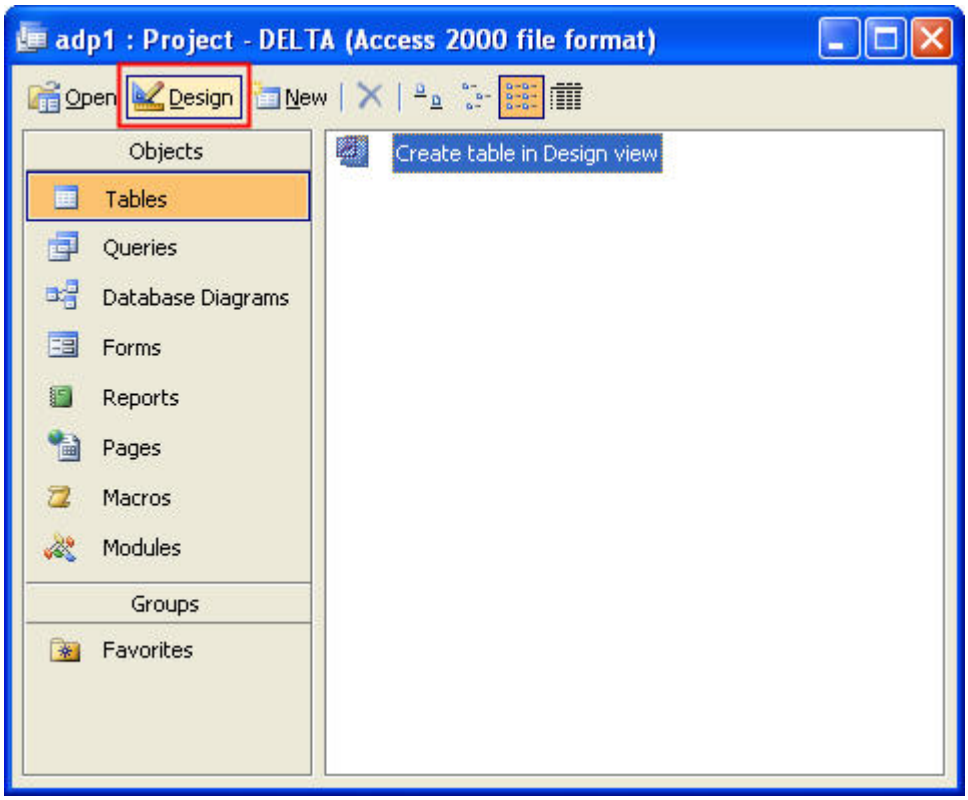
Name of database: DELTA

Press **Next** button to continue.

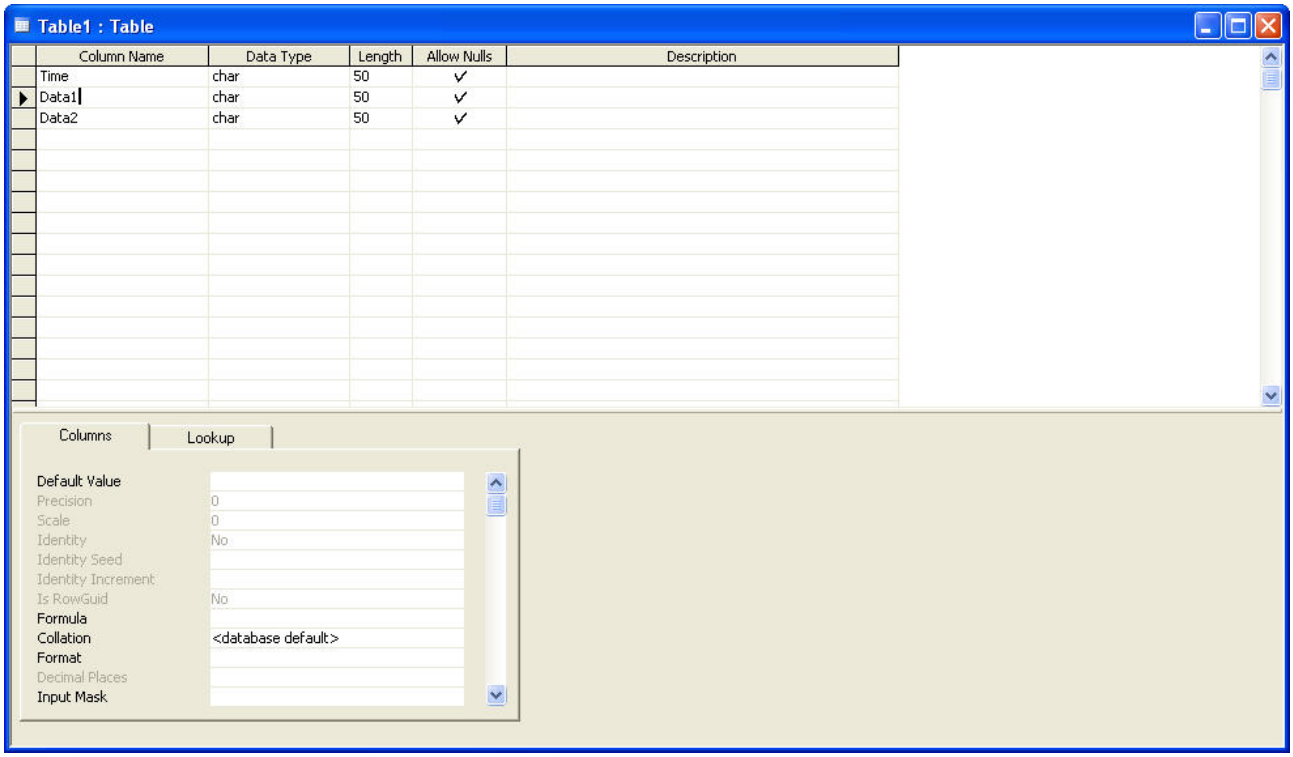


Press **Finish** button to complete the settings.

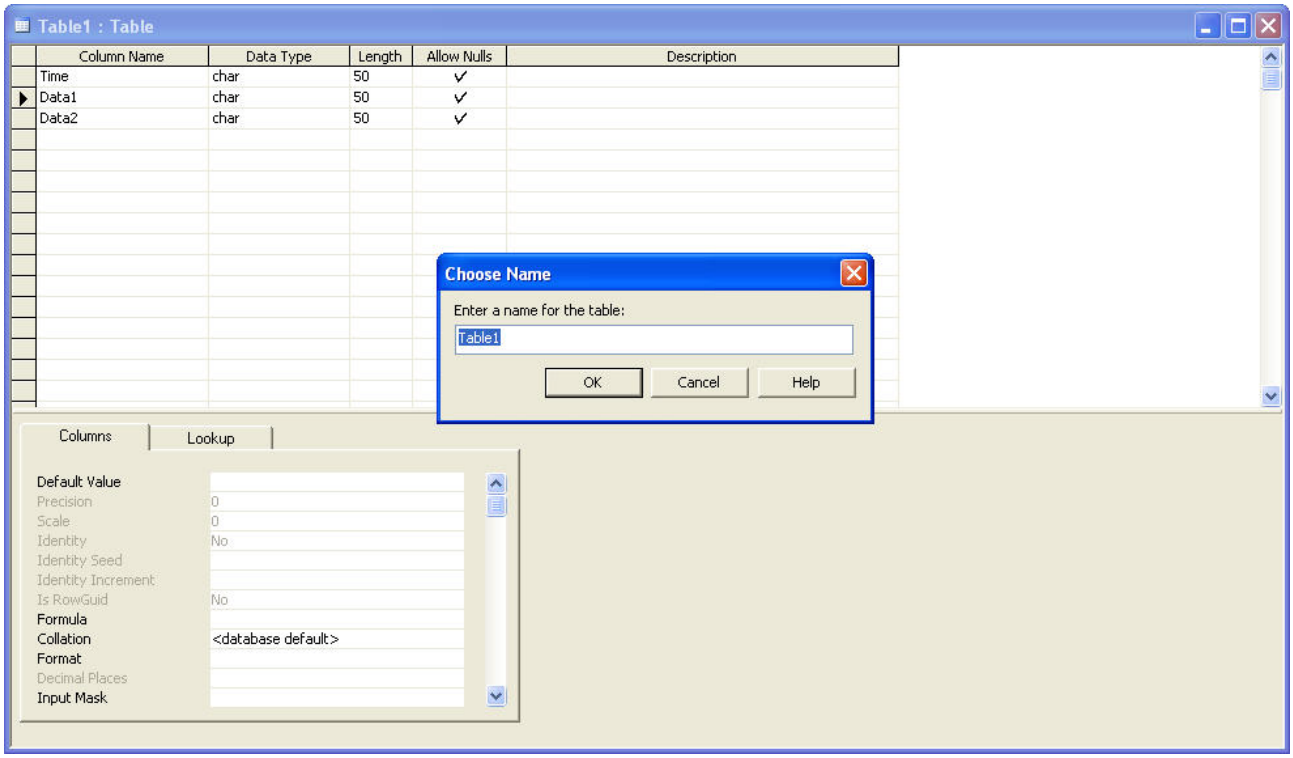
Then, click **Design** in the following pop-up window to create a database table in Design view.



In the Table dialog box, create a database like the following figure shown below.

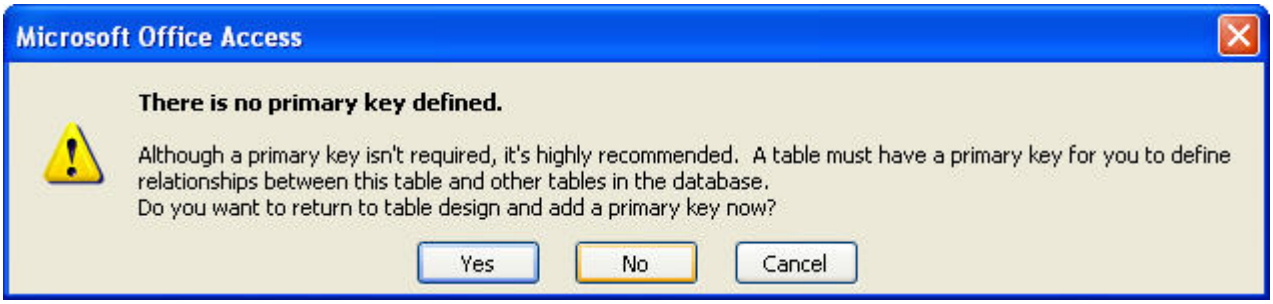


After editing the table, close the window to give a name for this table such as Table 1.



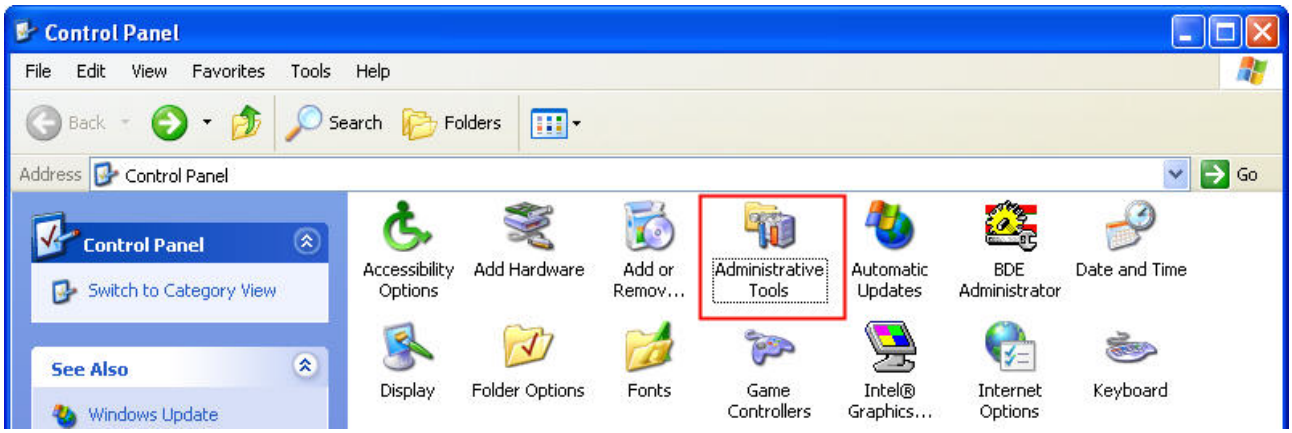
Click **OK** button, and the following warning dialog will pop-up.

Please press **No** button to complete the settings.

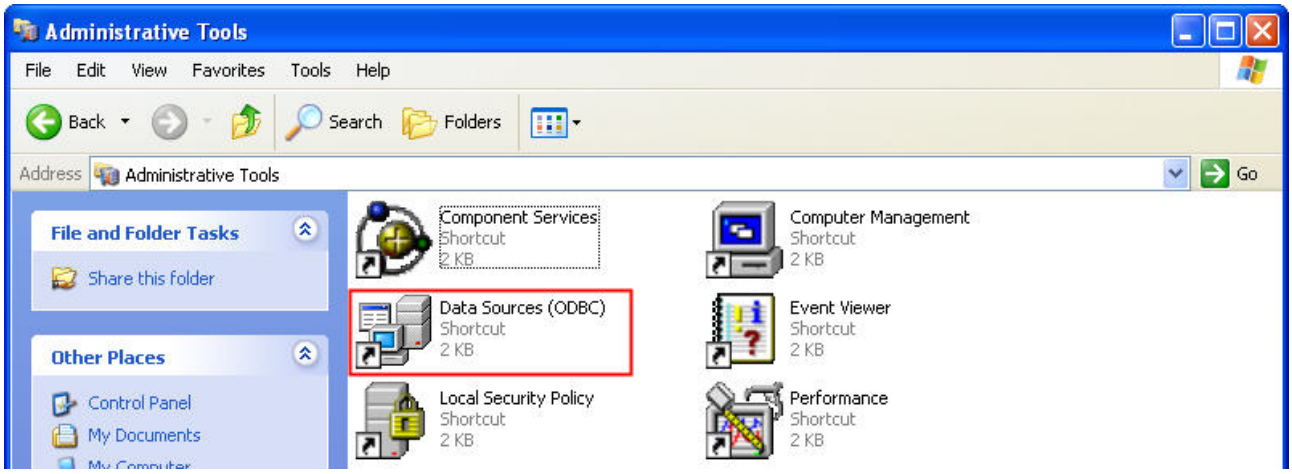


6. ODBC Setup

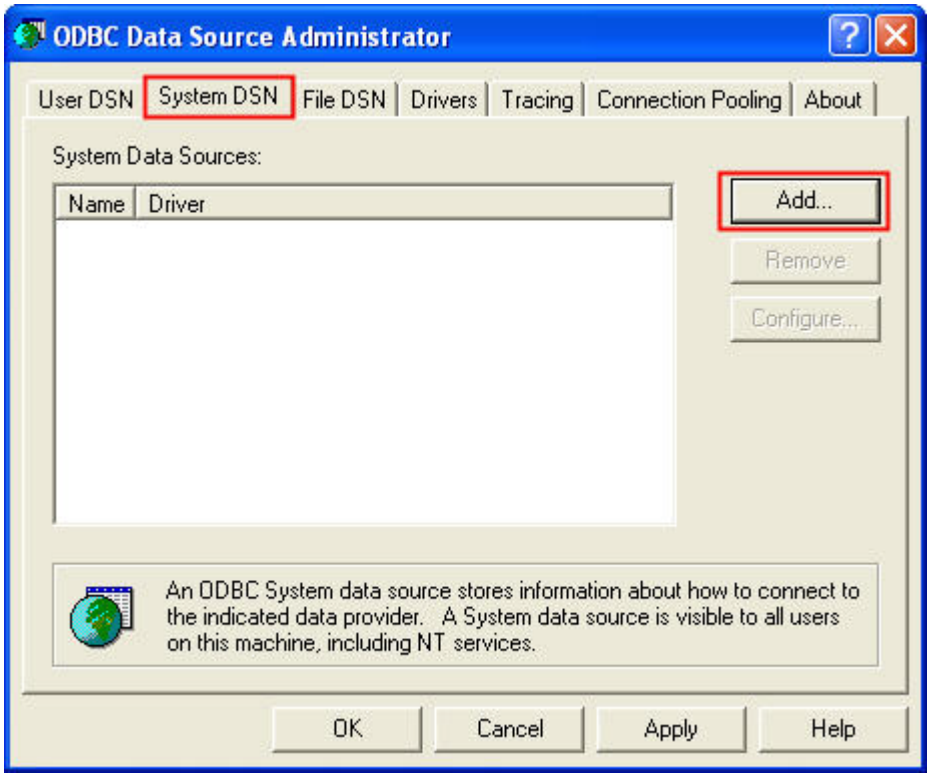
In the **Control Panel**, double-click **Administrative Tools**.



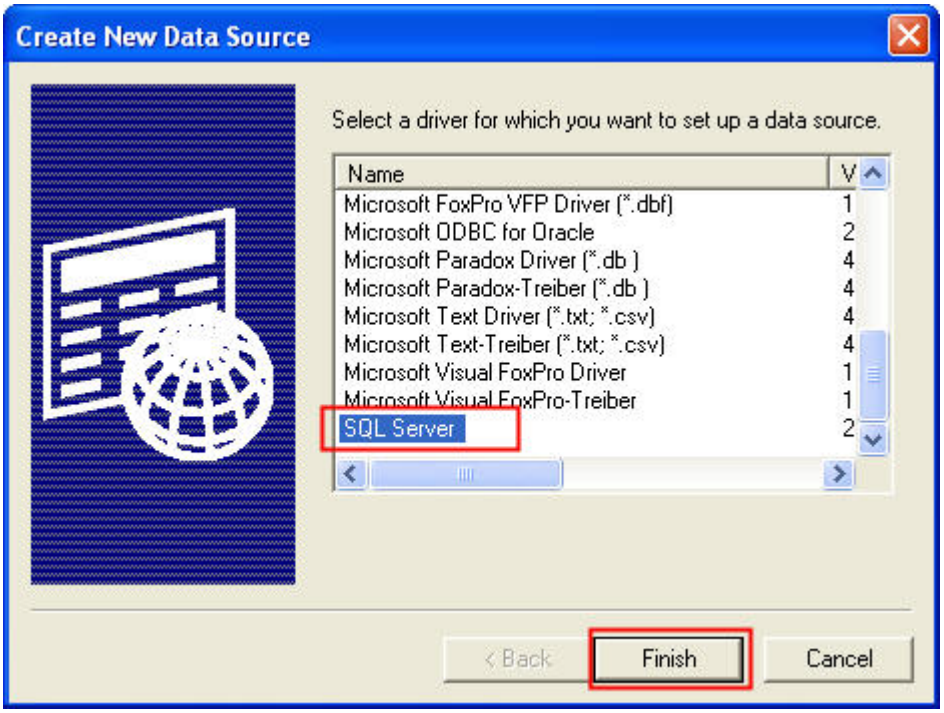
In the **Administrative Tools**, double-click **Data Sources (ODBC)**.



In the **ODBC Data Source Administrator** dialog box, select **System DSN** tab and click on **Add** button to add system data source.

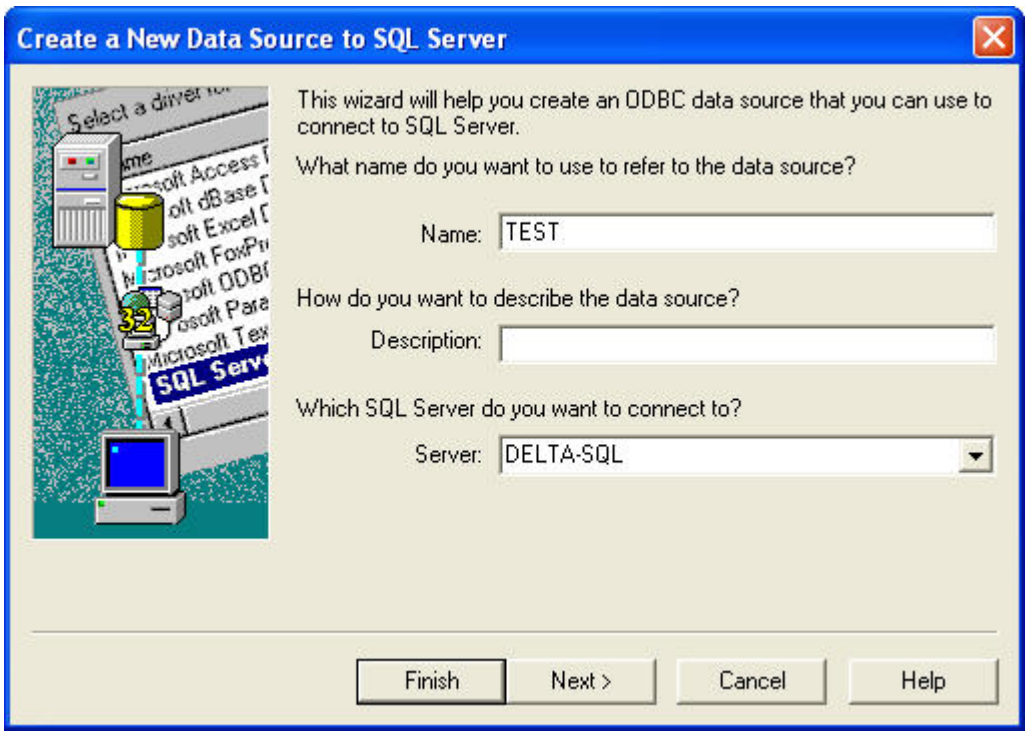


Select **SQL Server** and then click on **Finish** button.



In the Create a New Data Source to SQL Server dialog box, do the following:

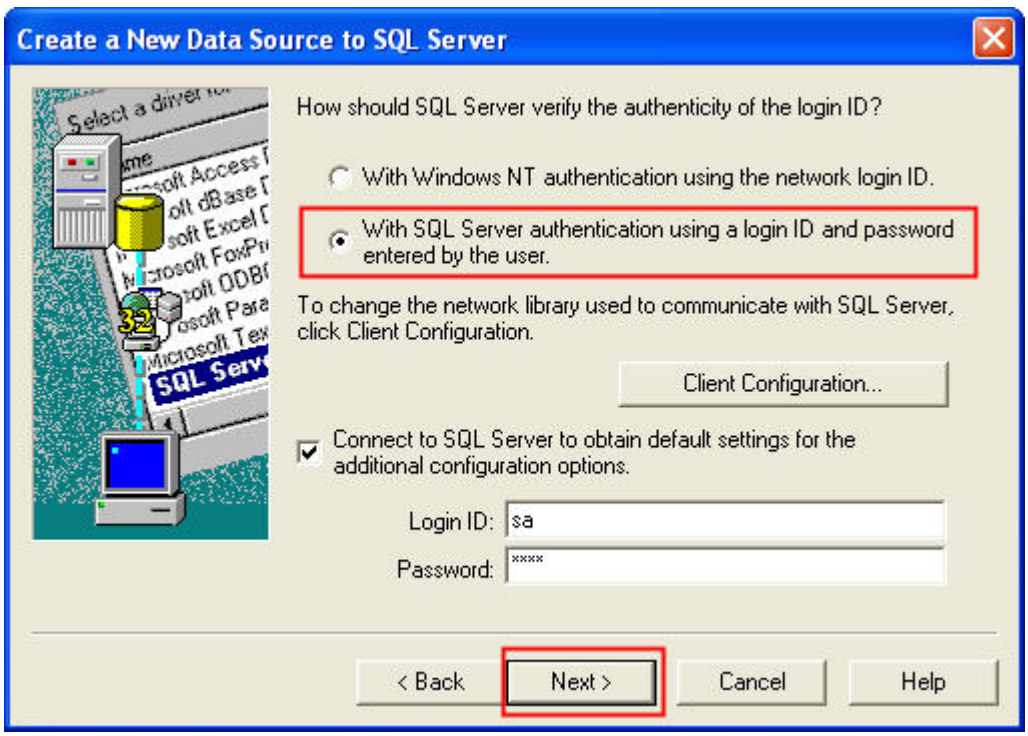
Enter the name of the data source and select the SQL Server that the users want to access.



Press **Next** button to continue.

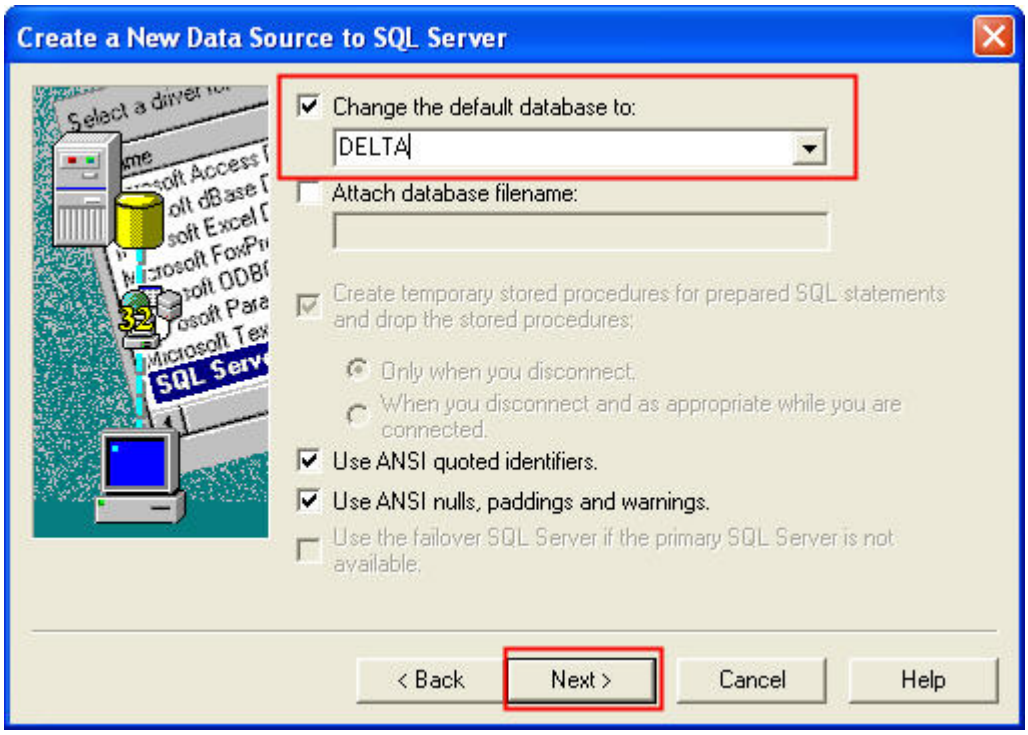
Choose how SQL Server should verify the authenticity of the login ID. Enter the user's name and the password. In this case, the user's name is **sa** and the password is **0000**.

Press **Next** button to continue.

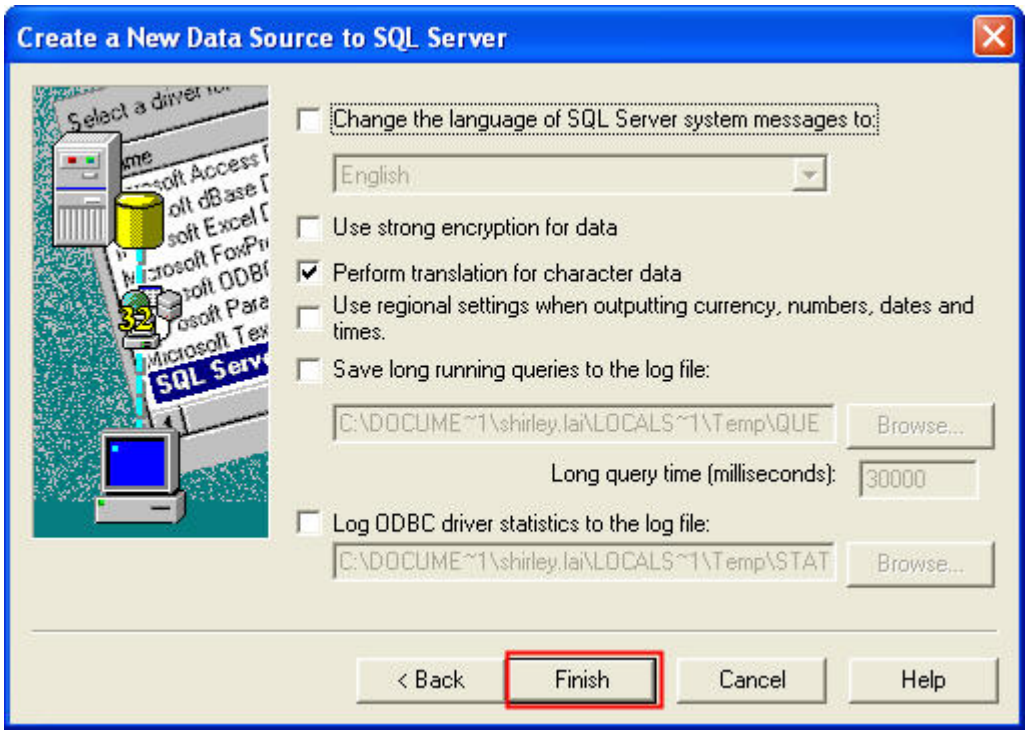


Change the default database to **DELTA**.

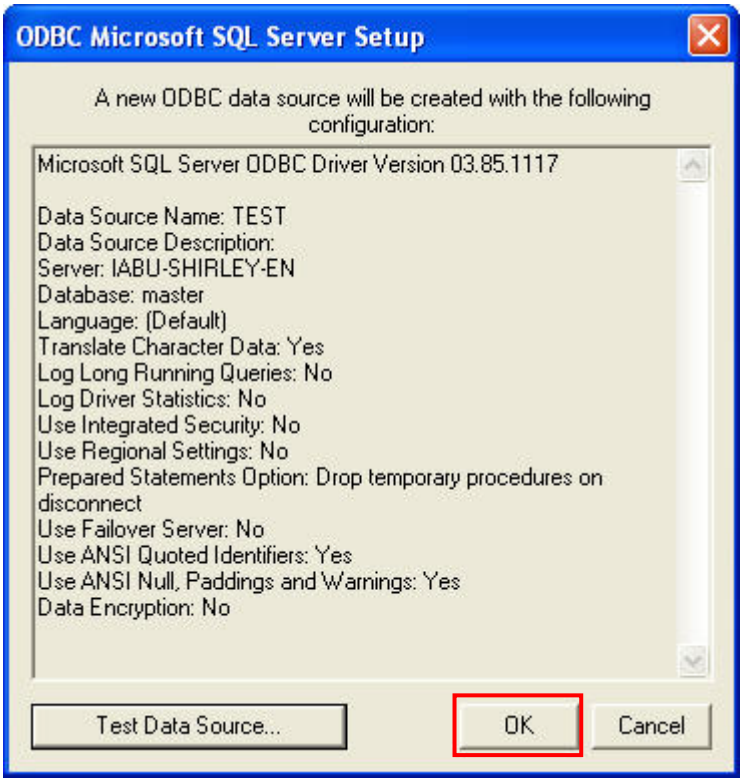
Press **Next** button to continue.



Press **Finish** button.

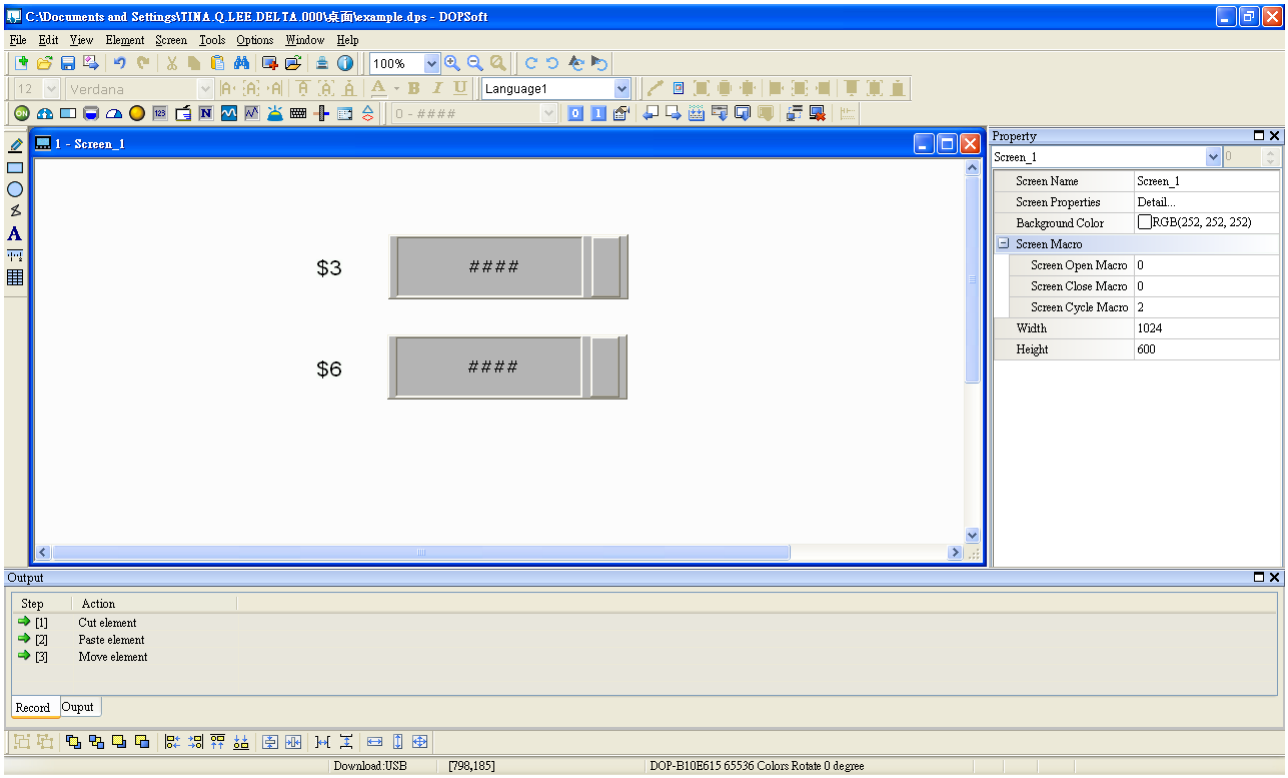


Press **OK** button to complete ODBC setup.

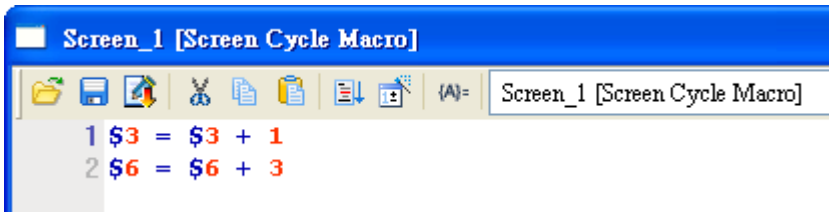


7.1.2 Create HMI Project File

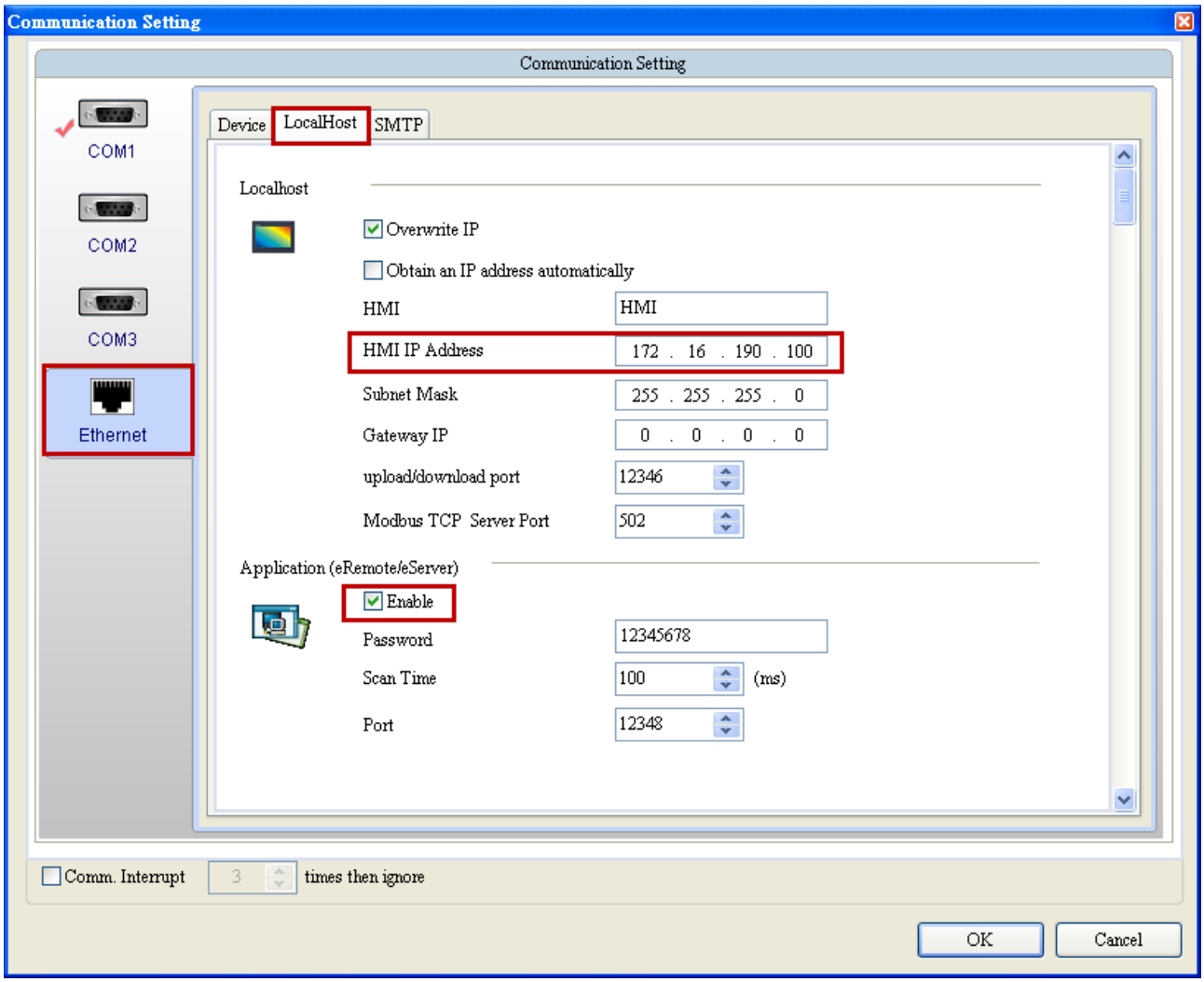
Start DOPSoft software program and click **File > New** or click **New** icon to create a new project. Then, click **Element > Input > Numeric Entry** to create two numeric entry elements ($3 and $6) on the screen. In this case, 10 inches color B10E615 type DOP series HMI is used.



Use Screen Cycle Macro and enter the following commands in macro command window.



Click **Options > Communication Setting > Ethernet > LocalHost,** set HMI IP Address and check the Application(eRemote / eServer) function **Enable.** Then, press **OK** button to finish the settings.

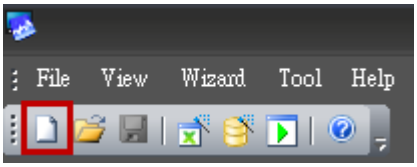

Communication Setting
Communication Setting
COM1
COM2
COM3
Ethernet
Device
LocalHost
SMTP
Localhost
Overwrite IP
Obtain an IP address automatically
HMI
HMI
HMI IP Address
172 . 16 . 190 . 100
Subnet Mask
255 . 255 . 255 . 0
Gateway IP
0 . 0 . 0 . 0
upload/download port
12346
Modbus TCP Server Port
502
Application (eRemote/eServer)
Enable
Password
12345678
Scan Time
100
(ms)
Port
12348
Comm. Interrupt
3
times then ignore
OK
Cancel

7.1.3 eServer Setting

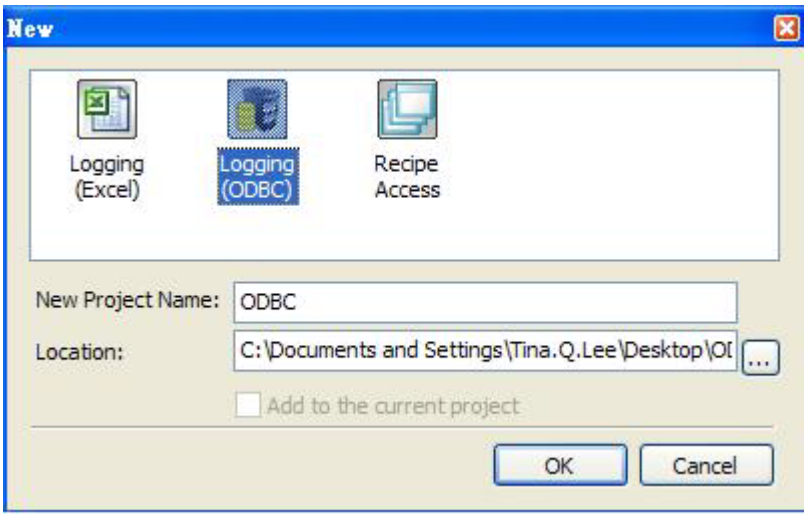
1. After eServer is started, eServer window will open.



3. Click **File > New** or click  icon to create a new project file.



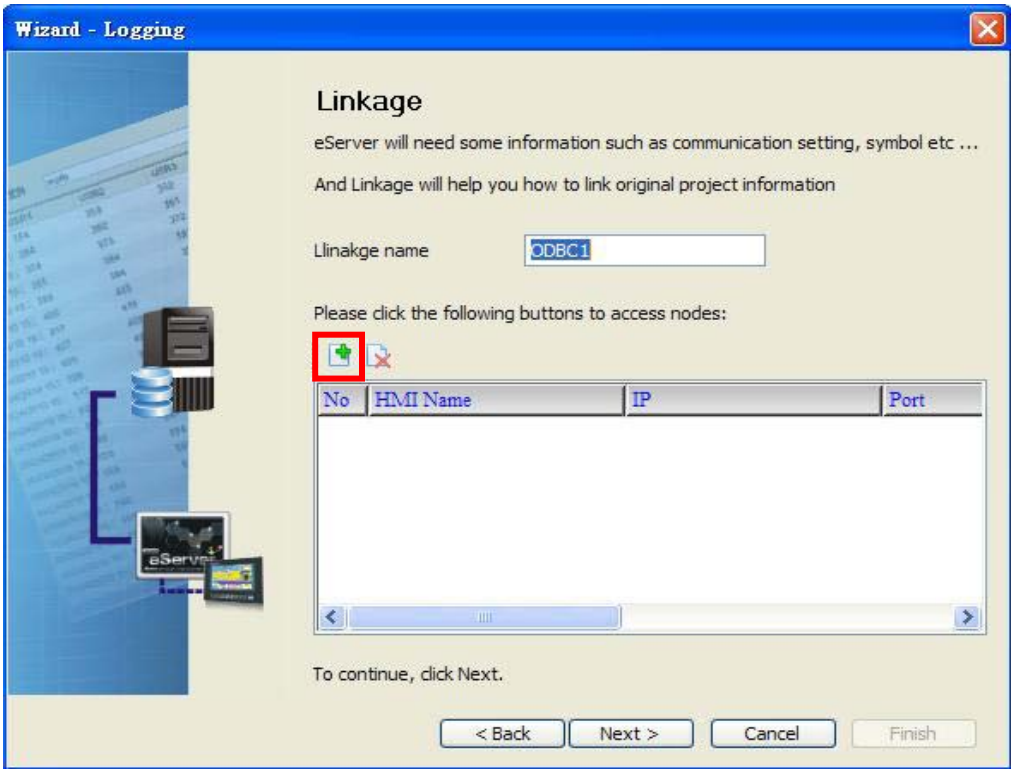
4. Select  icon to enable ODBC Logging Wizard.



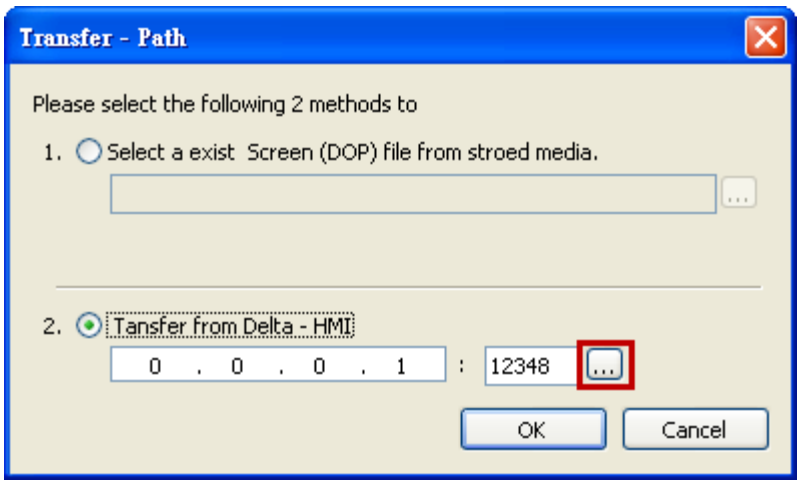


Press **Next** button to go to next step.

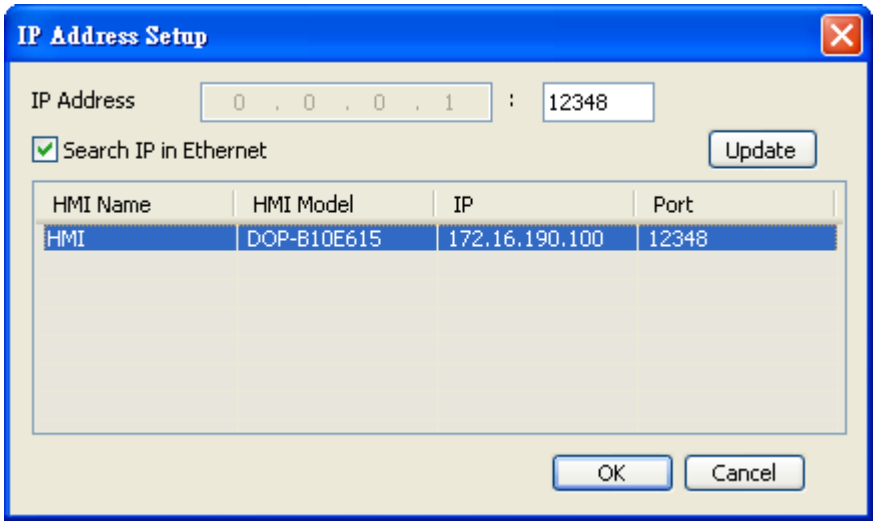
5. Click **New** icon to access nodes (link to HMI).



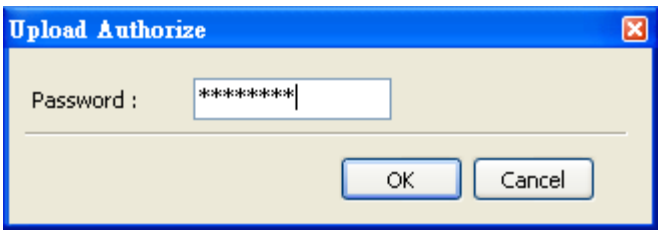
Choose **Transfer from Delta – HMI** option to transfer the HMI screen project file via network communication directly.



After searching HMI IP in Ethernet, select HMI Name is HMI, IP is 172.16.190.100, press **OK**.

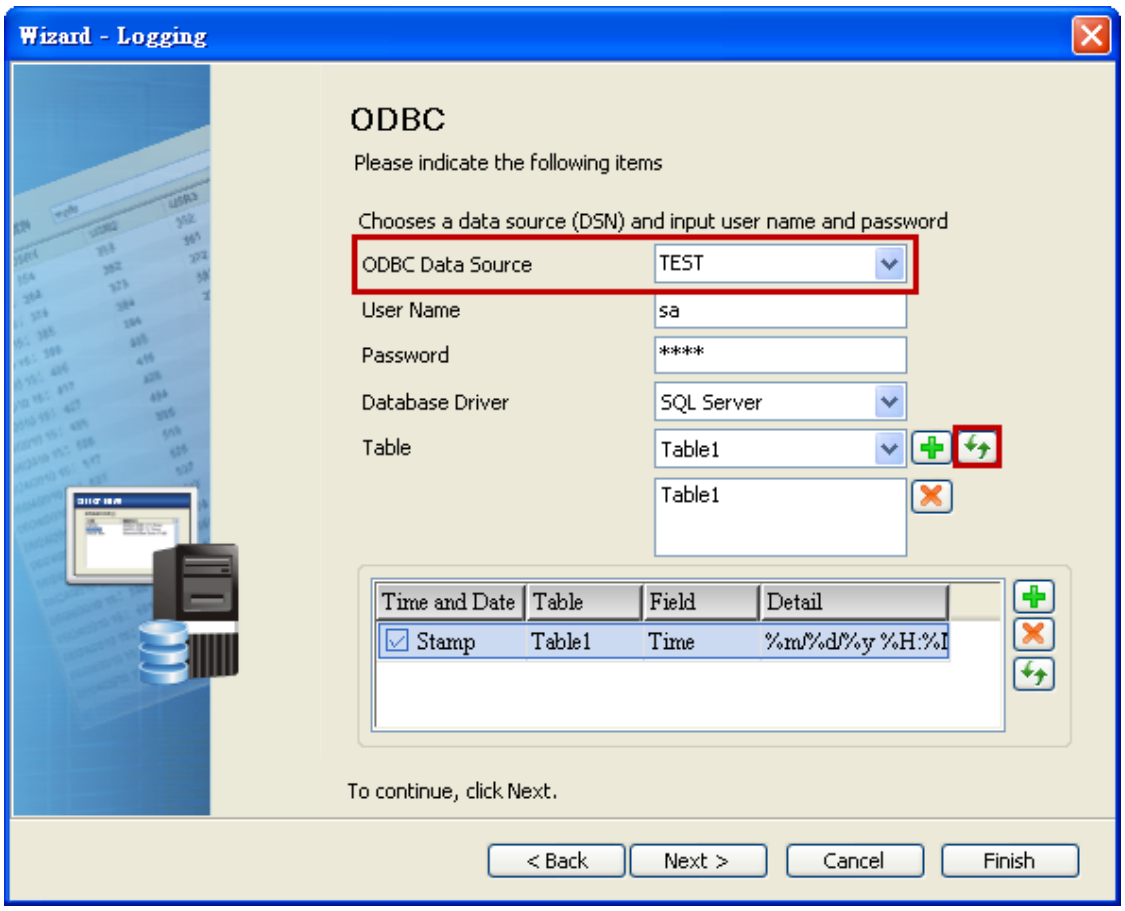


eServer will ask user to input the authorize password to connected with HMI. (The default password is 12345678.)



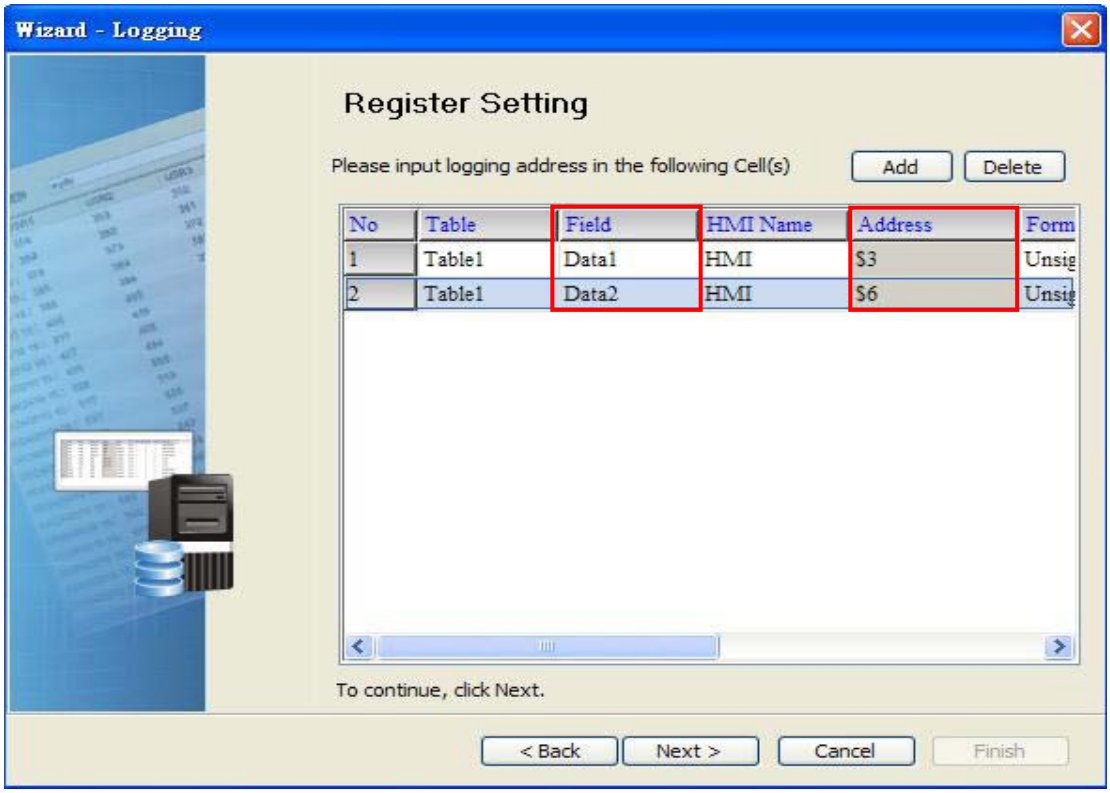
Press **OK** button to go to next step.

6. ODBC Data Source Setting: Create an ODBC Data Source pointing to your database. Please refer to the following settings and press refresh button to select table.

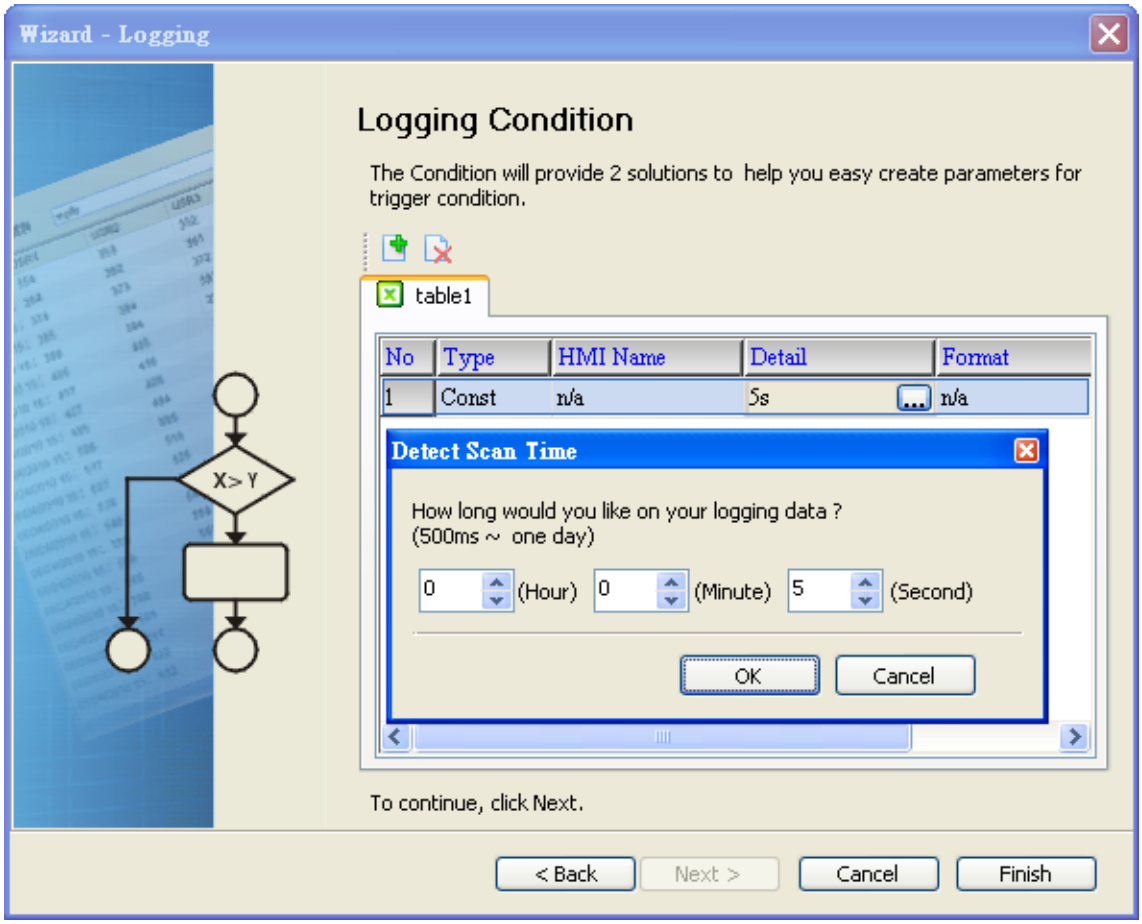


Press **Next** button to go to next step.

7. Register Setting: Set the register address of the sampling data.

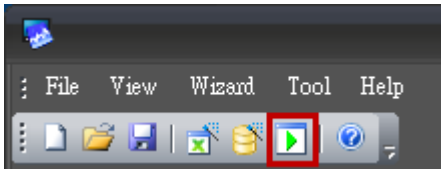


8. Set the sampling conditions to constant **5s**.

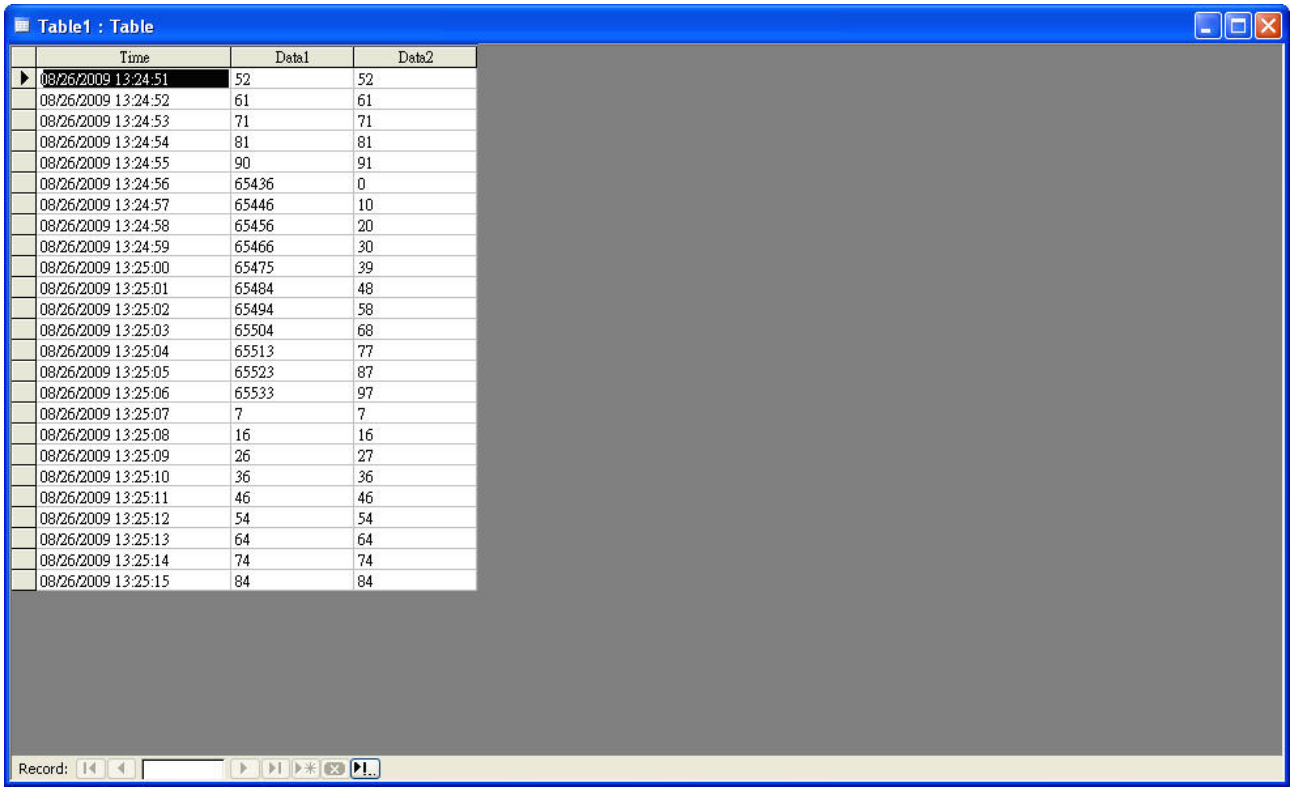


Press **Next** button to continue.

9. Press  icon. After the password 12345678 is entered, the system will start sampling operation, i.e. writing data in Microsoft Access.







10. If the users want to pause or stop the sampling operation, only right-click eServer icon at the bottom right of Windows screen and select Pause or Stop option from the pop-up menu, the sampling operation will pause and stop immediately.



Chapter 8 Writing Data in Microsoft Access 2007 at Windows 7

Before creating testing example, make sure to change the upload and download option (**Options > Environment**) on DOPSoft first. The default setting of upload and download is via **USB**. If the users need to use **Ethernet**, please change the default setting by referring to **Appendix A**.

8.1 Example

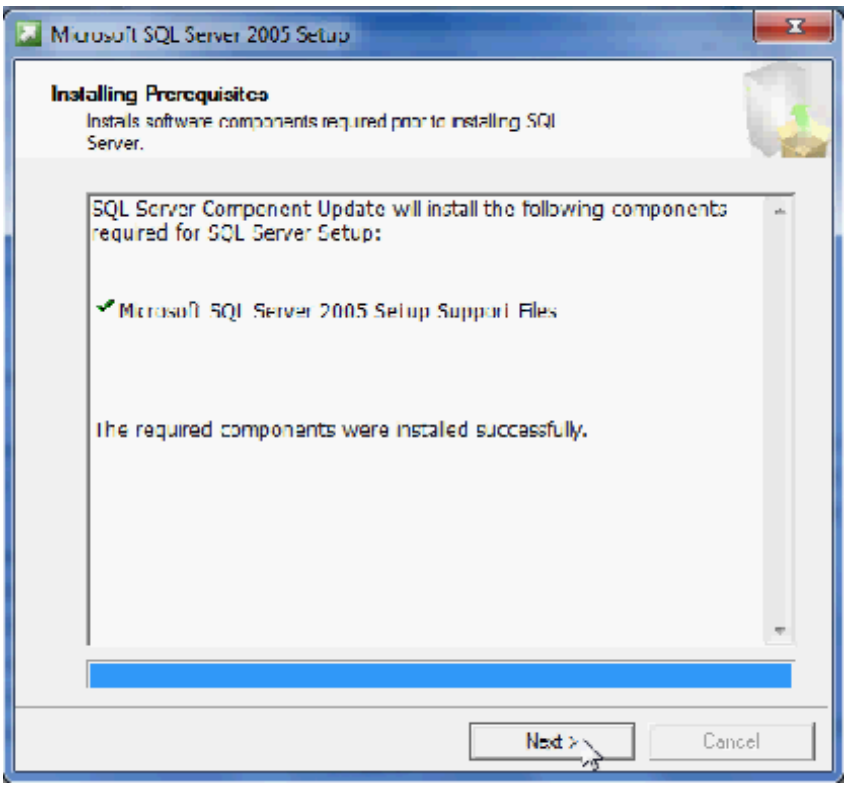
This example is used to help the users to understand how to use eServer to read the data of the register addresses $100 every second, record the data in Microsoft Access database via ODBC interface, and save the collected data into the specified folder.

8.1.1 Database Setting

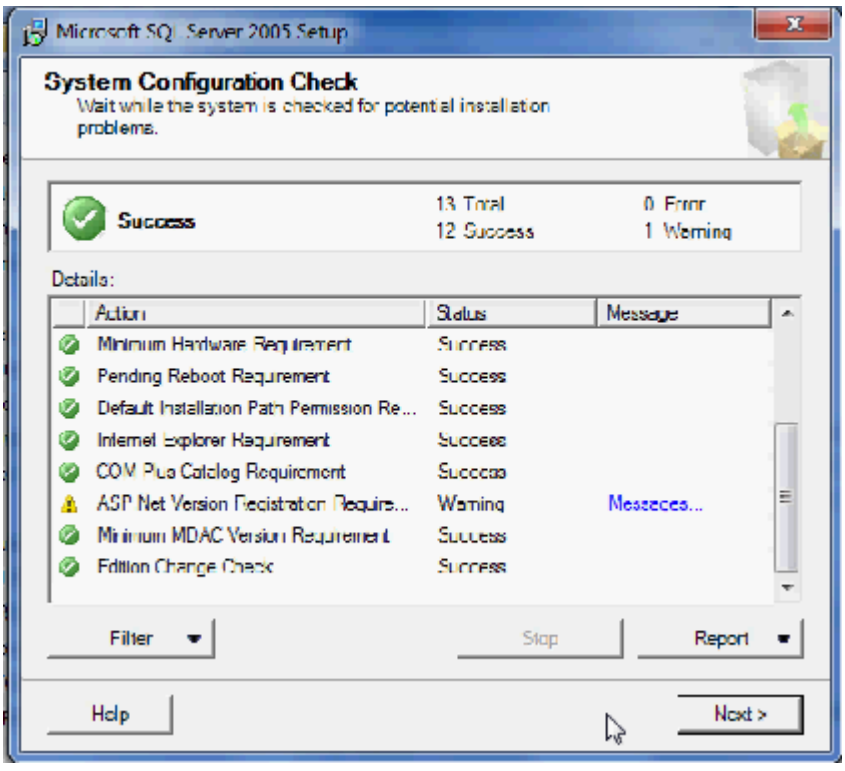
1. Install SQL Server 2005 Express Edition：

Presently only SQL 2005 Express and SQL Server 2008 can used in Windows 7 OS, so we choose SQL Server 2005 Express as the database server. To download it, go to http://www.microsoft.com/downloads/details.aspx?familyid=3181842A-4090-4431-ACDD-9A1C832E65A6&displaylang=zh-tw and a download link will redirect the users to download it. (SQLEXPR_CHT.EXE is for x64 bits OS, and SQLEXPR_CHT32.EXE is for x32 bits OS)

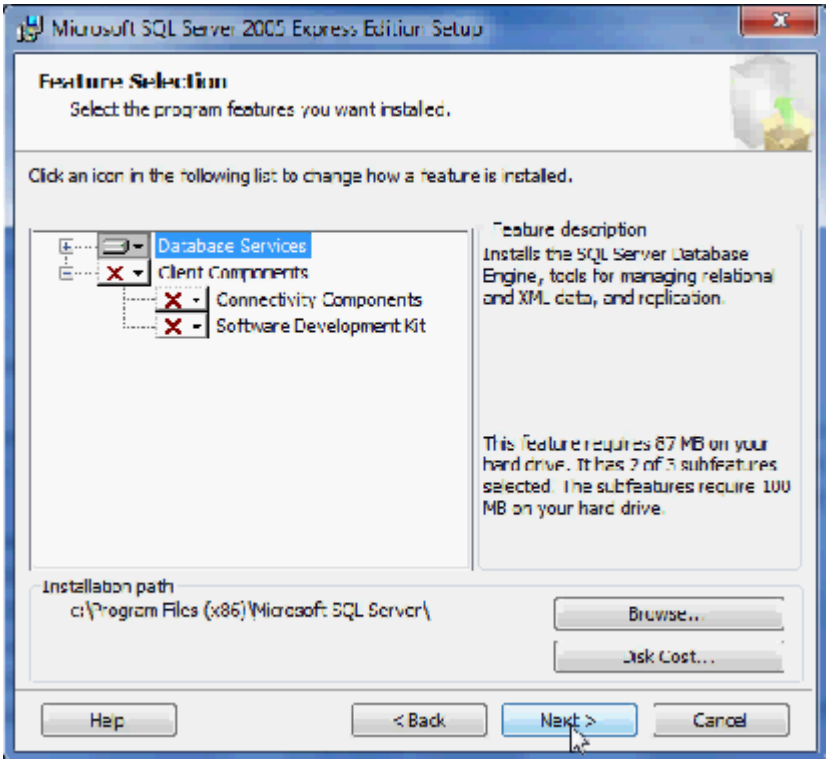
After running the self-extracting file, starting the installation of SQL Server:



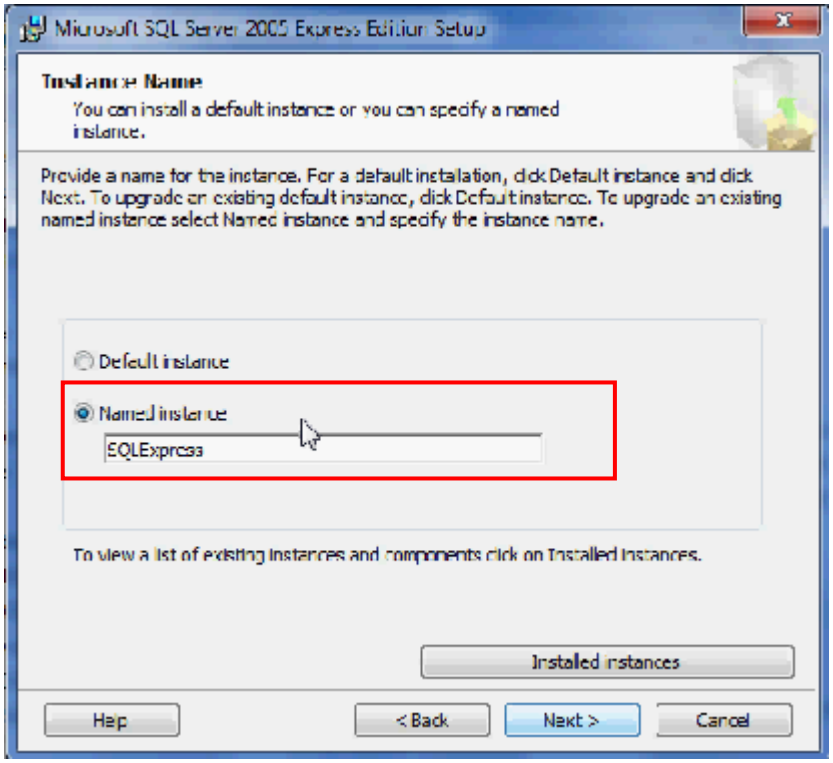
Check system configuration, then click『Next』.



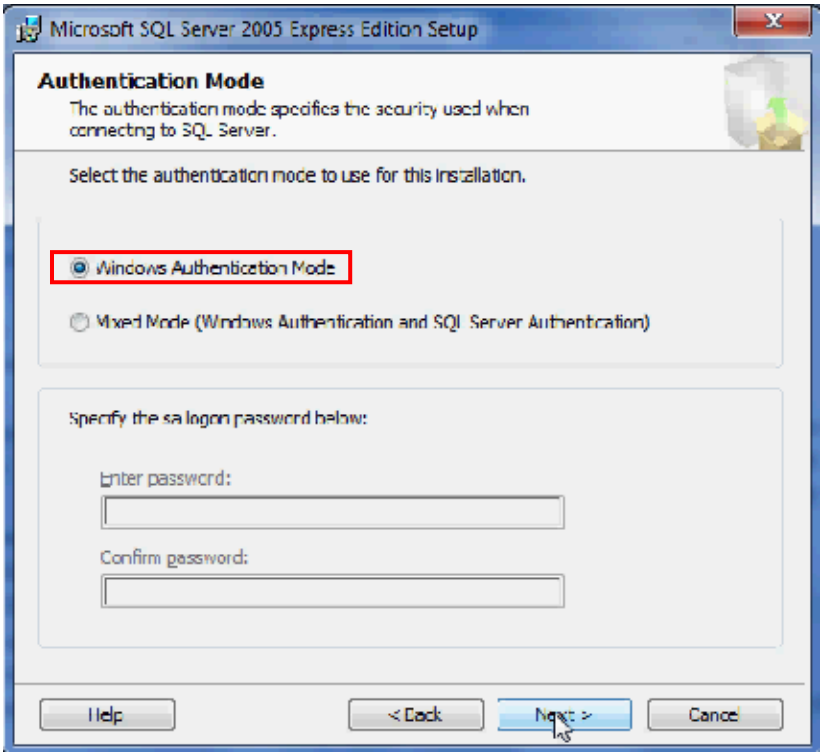
Feature selection. Set as below figure and click『Next』.



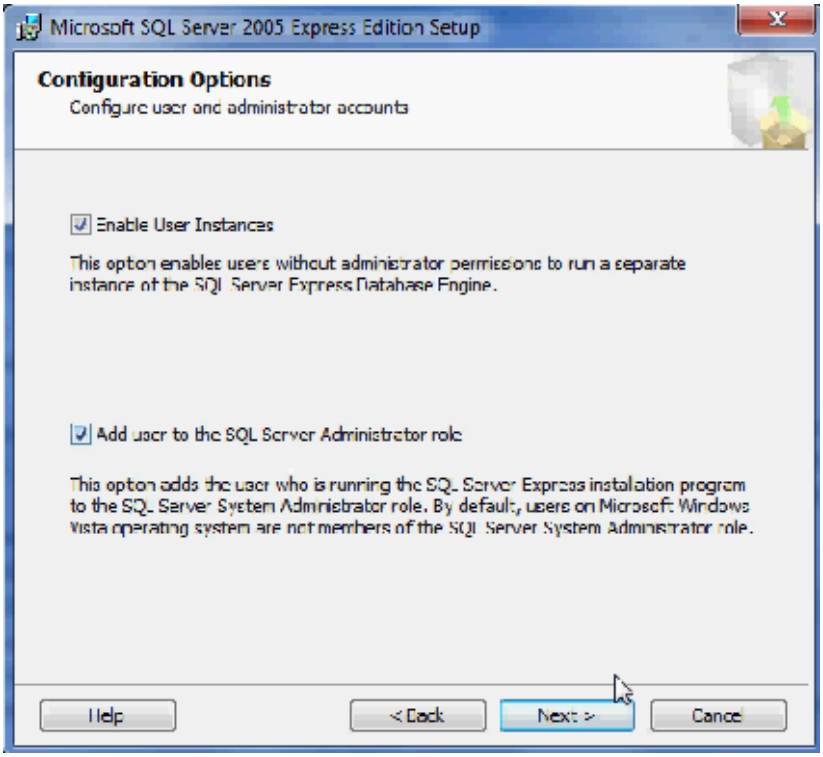
Input the instance name of SQL server and click『Next』.



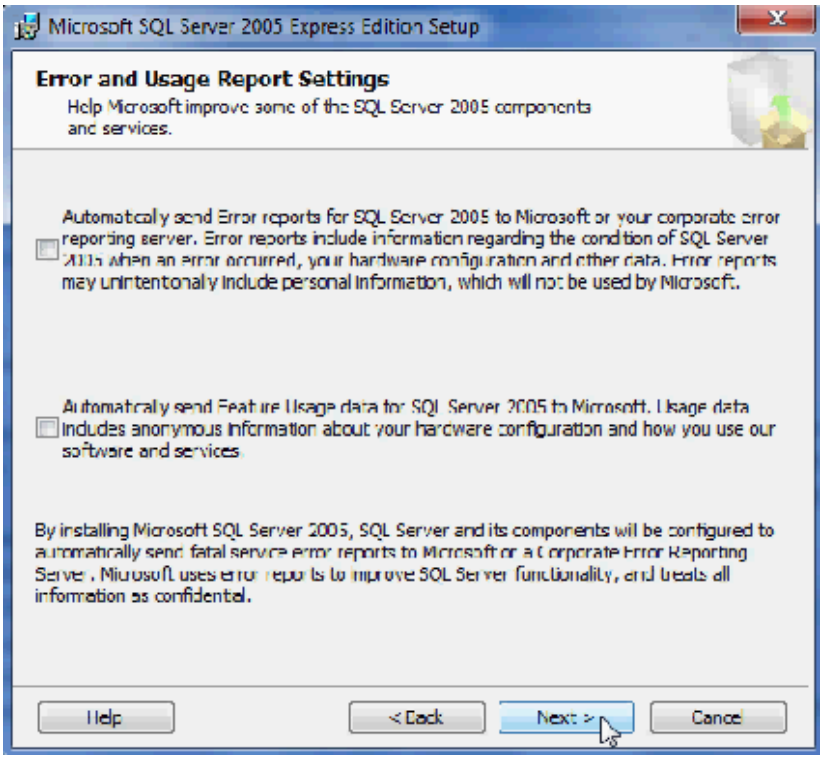
Choose the authentication mode. Set as below figure and click『Next』.



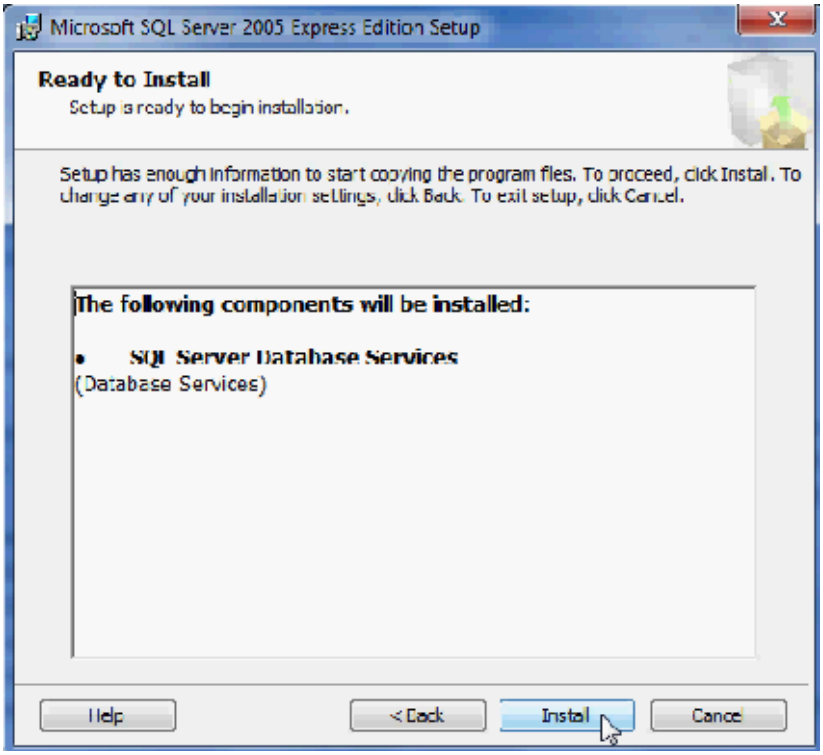
Setup the account. Set as below figure and click『Next』.



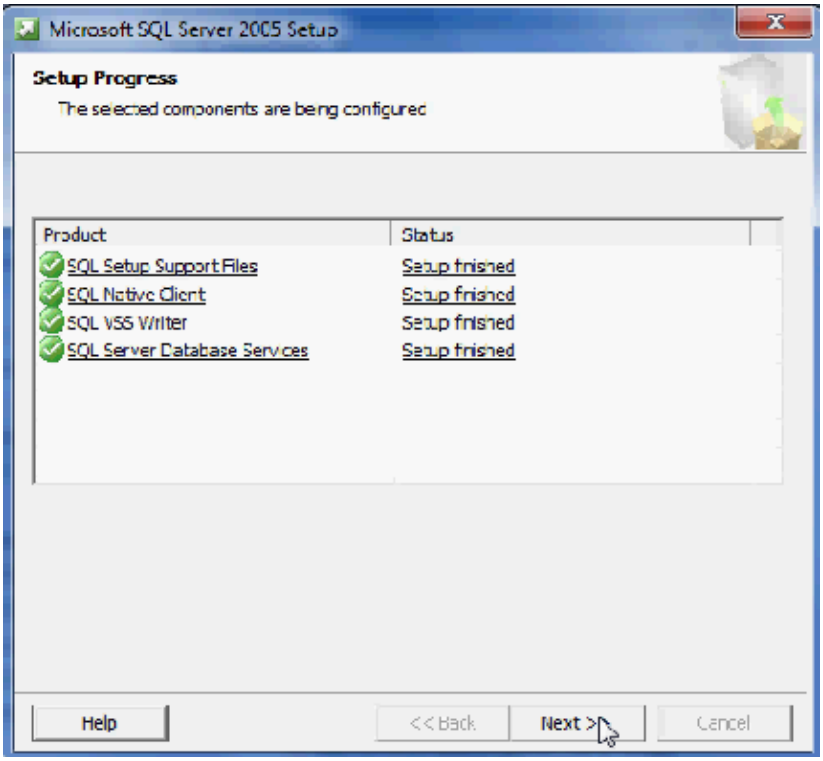
Setup the error report way. Set as below figure and click 『Next』.



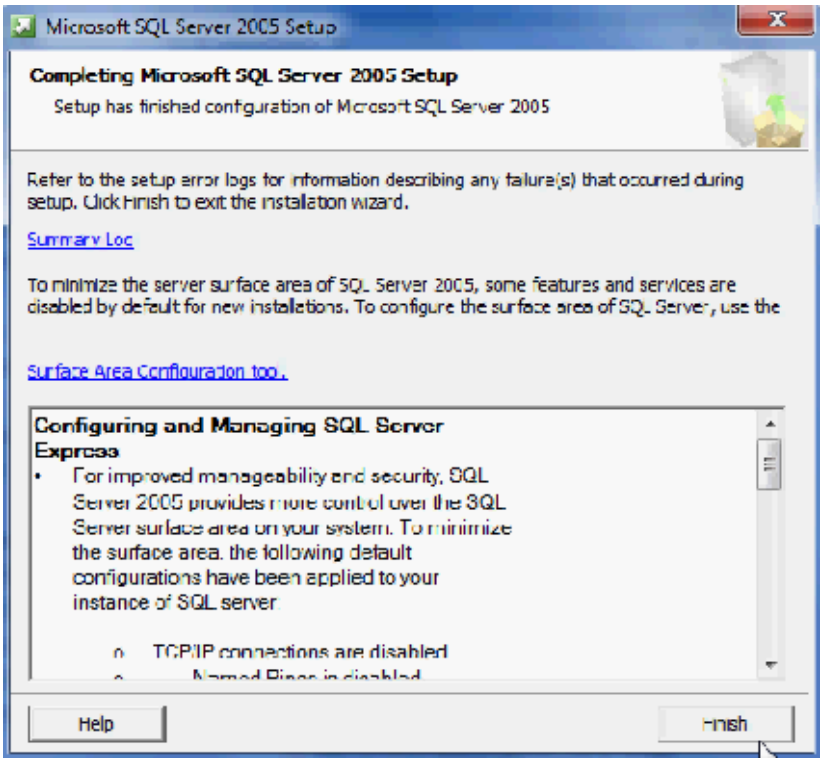
Setup completely and start to install.



The progress of installation shows as , and then click『Next』.

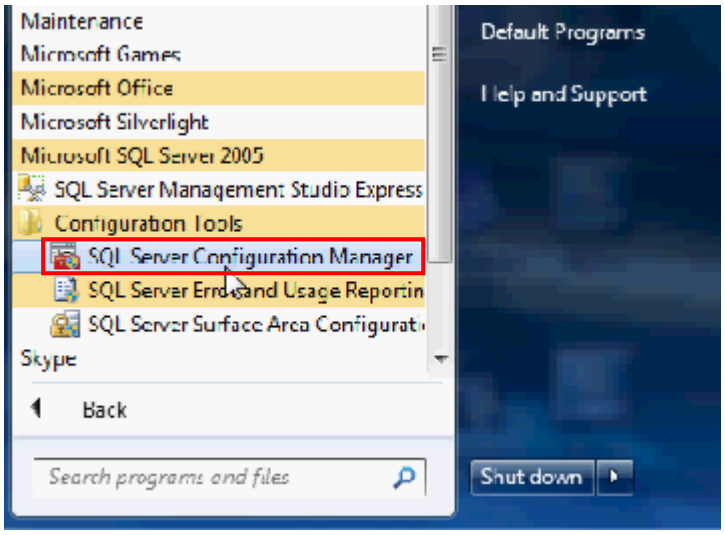


The report of the SQL Server installation shows. Click『Finish』.

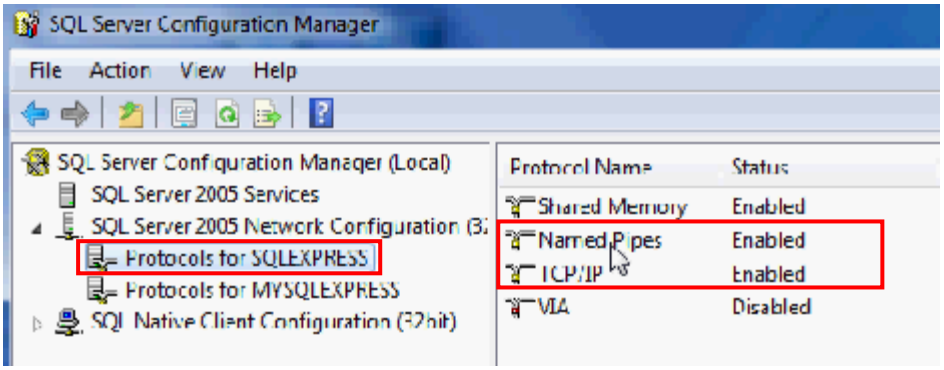


2. SQL Server Configuration Setup：

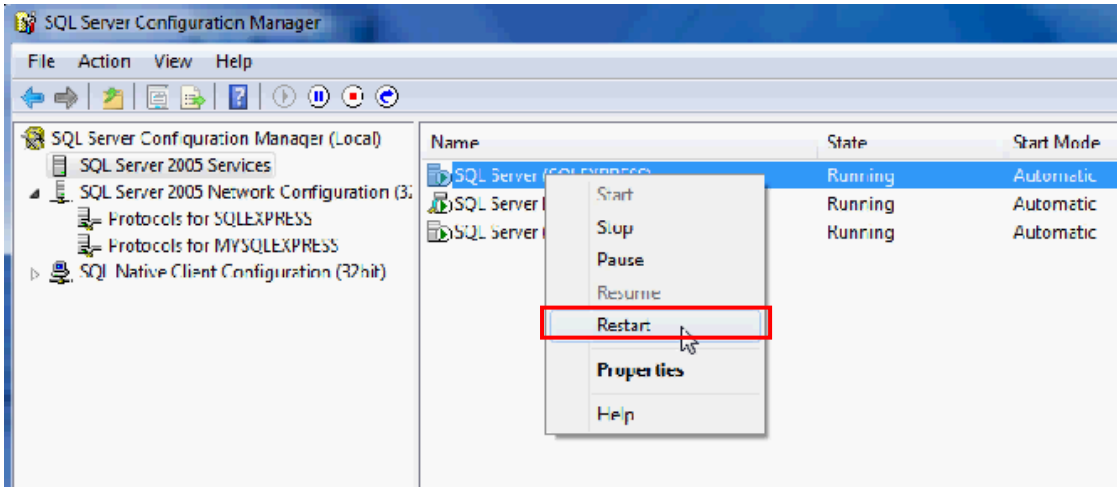
Start『SQL Server Configuration Manager』.



Enable the Named Pipes and TCP/IP communication protocol.

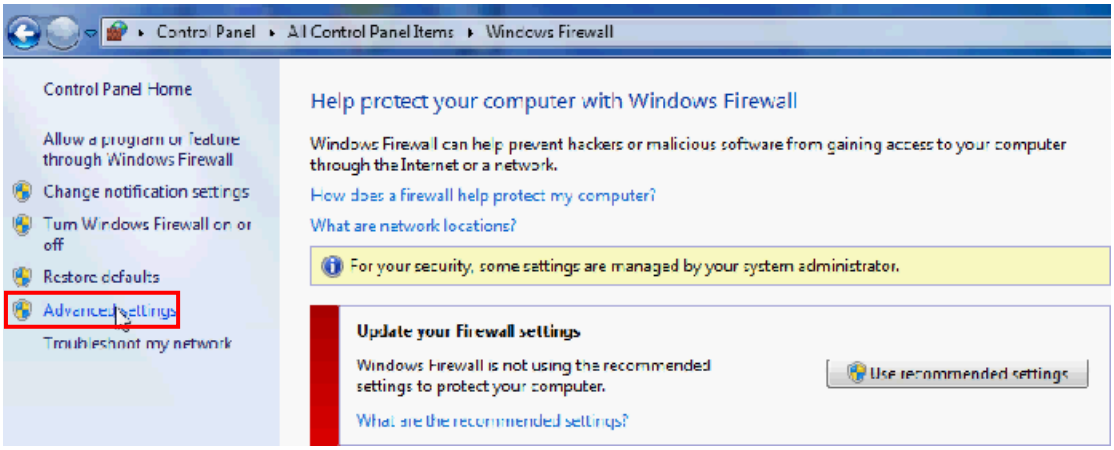


Restart the instance of SQL server.

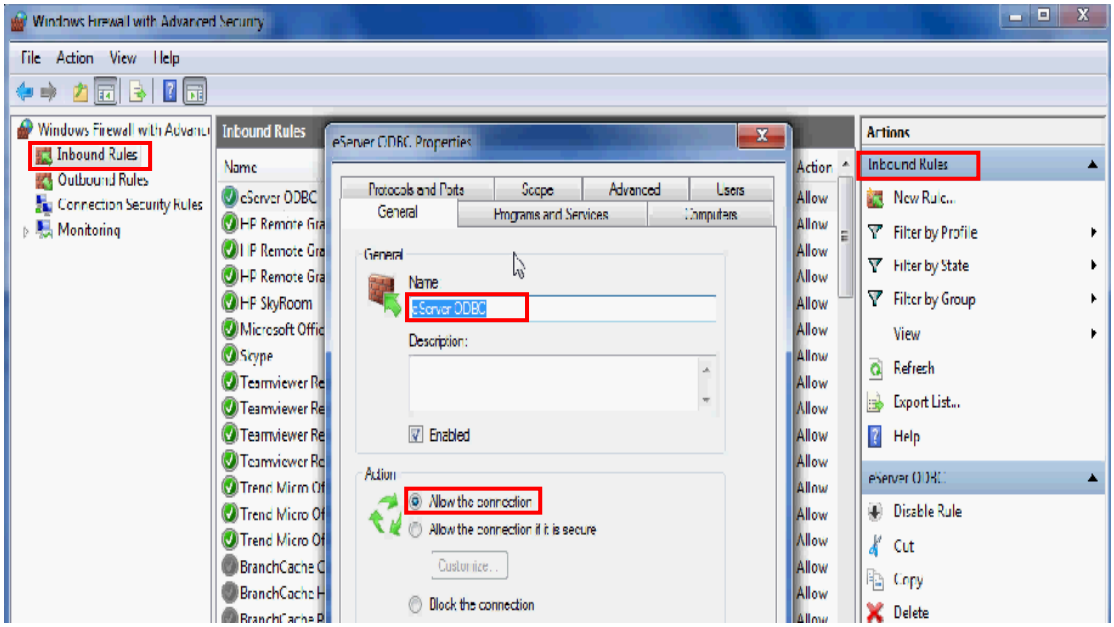


3. Windows Firewall Setting：

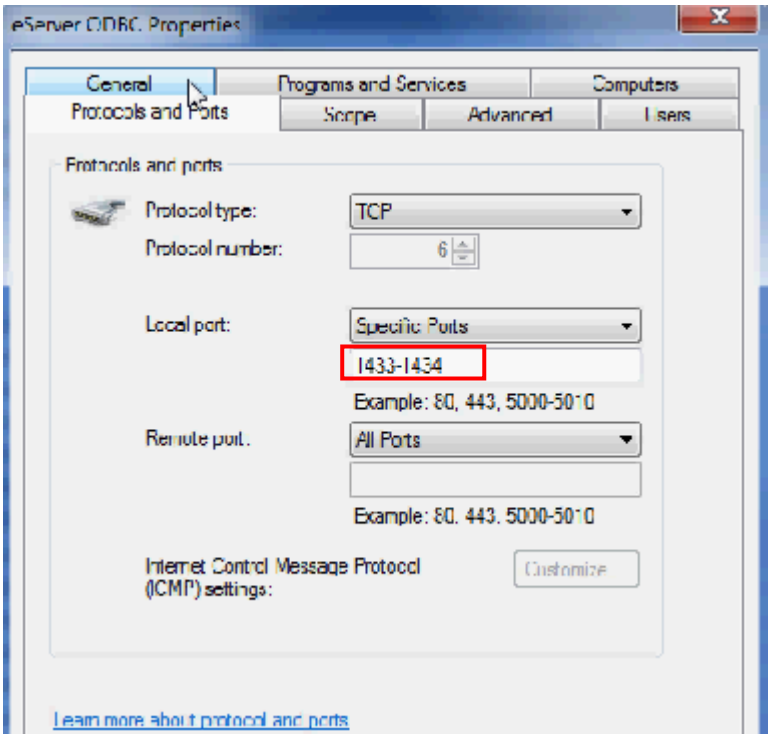
Click 『Control Panel』➔『Windows Firewall』, then enter the 『Advanced Settings』.



Choose『Inbound Rules』then click『New Rule...』. Input the name of new import rule and choose the connection action.

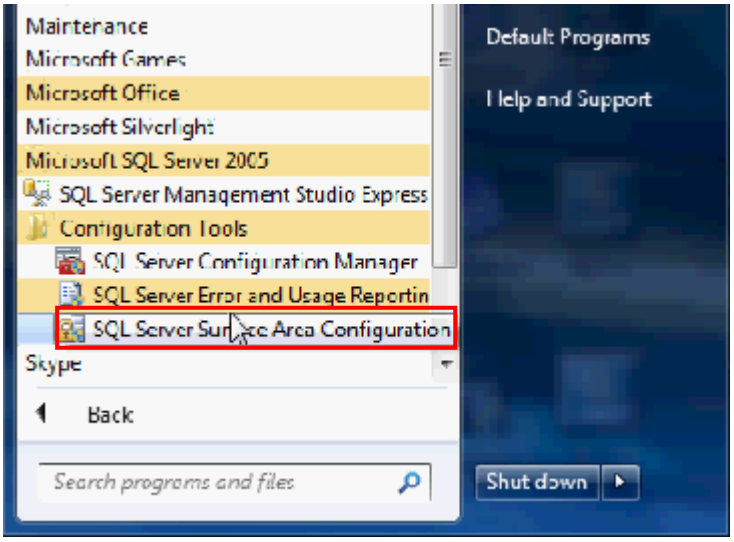


Enable specific ports for the Named Pipes connection and the TCP/IP connection. Due to the connection default port no. are 1433 and 1434, we set local connection port as “1433-1434”.



4. SQL Server User Authority：

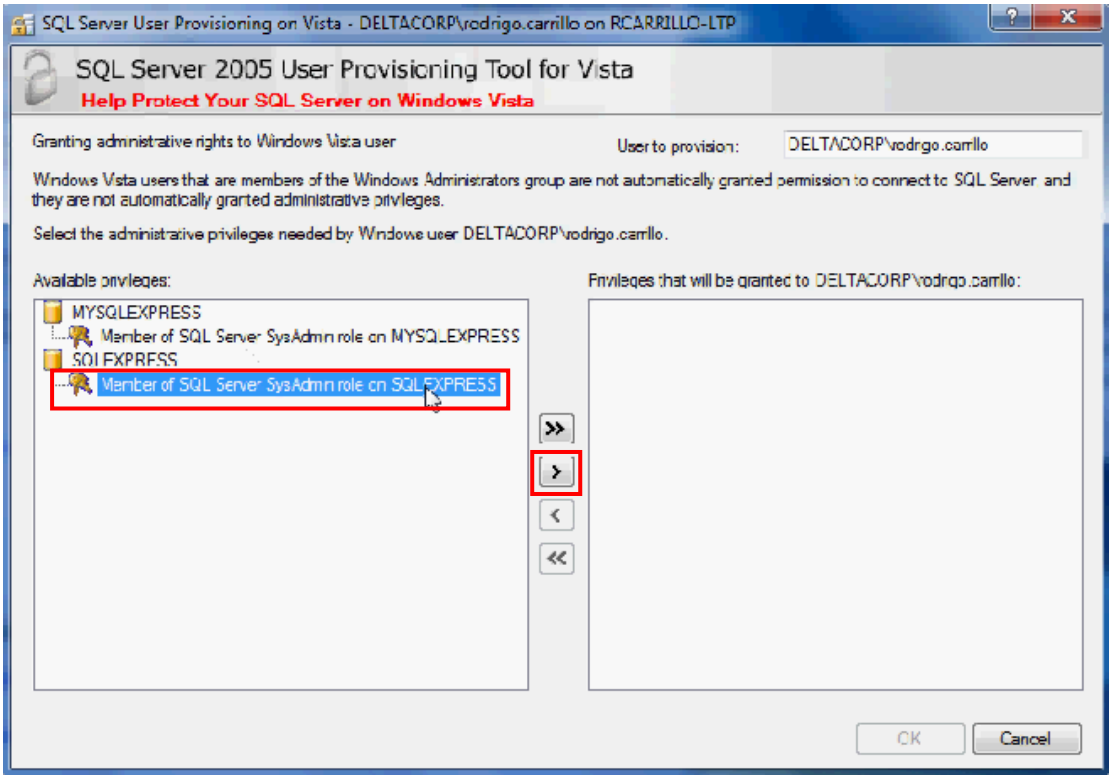
Start『SQL Server Surface Area Configuration』.



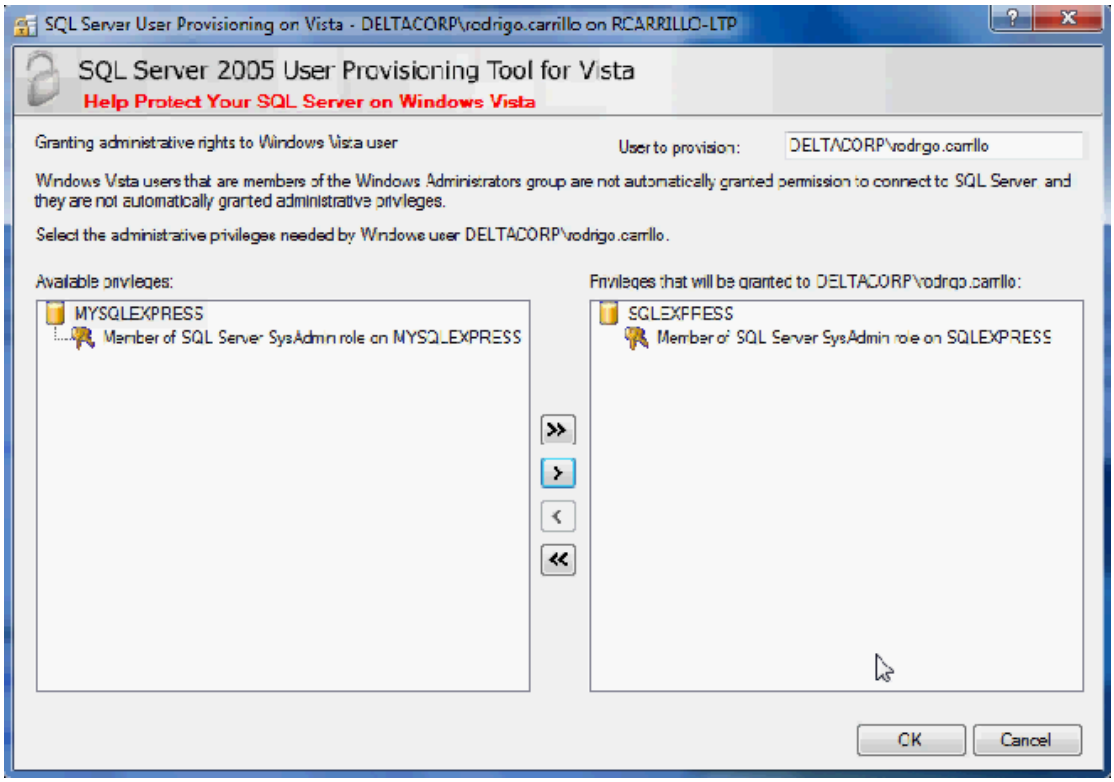
Click the『Add New Administrator』.



Choose authority of server to user. After choosing, click『>』.



Click『OK』and finish the setup.

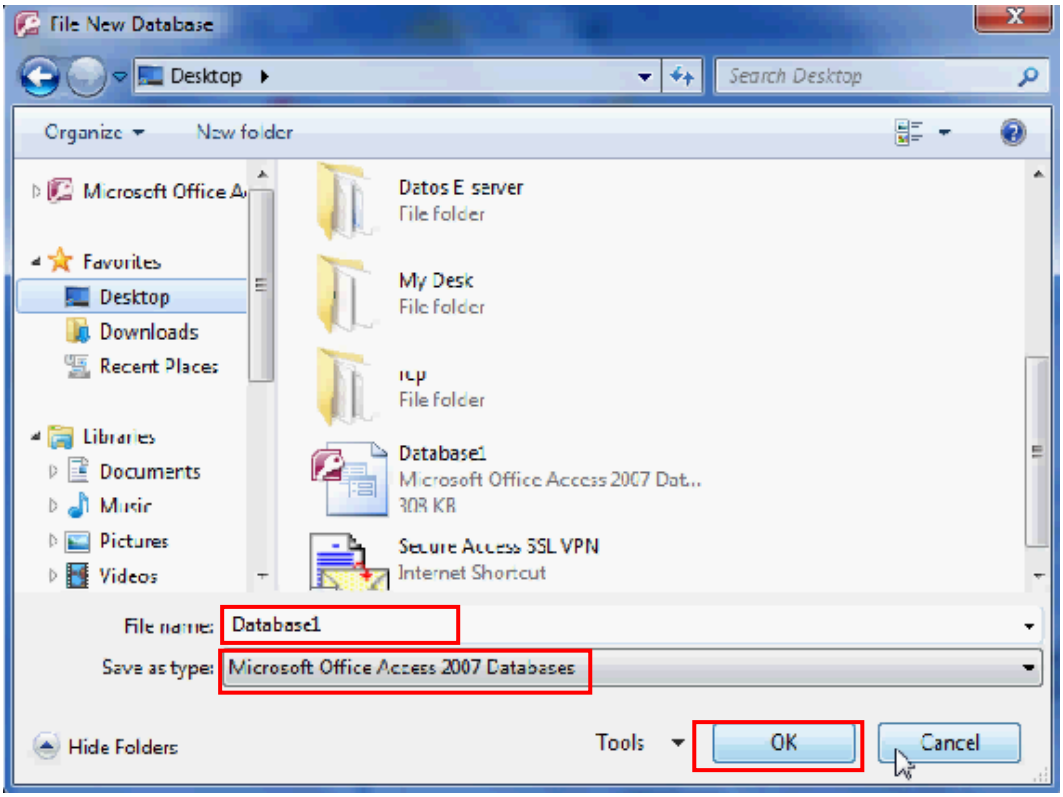


5. Access 2007 Setting：

Open Access 2007 and click『Add New Database』, then click  icon.



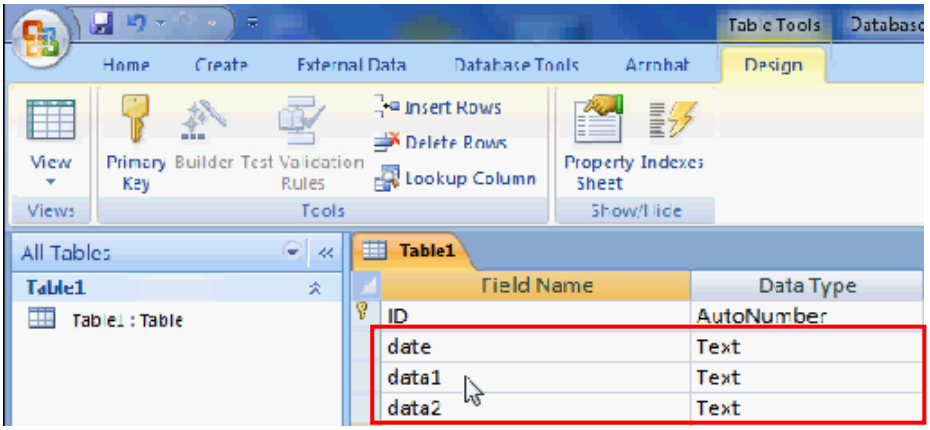
Input the file name and select the file type as Access 2007, then confirm it.



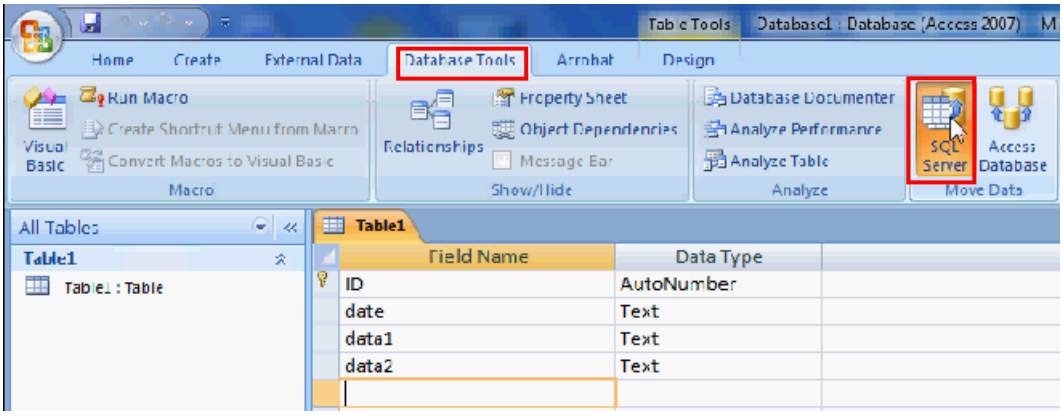
Click『Create』.



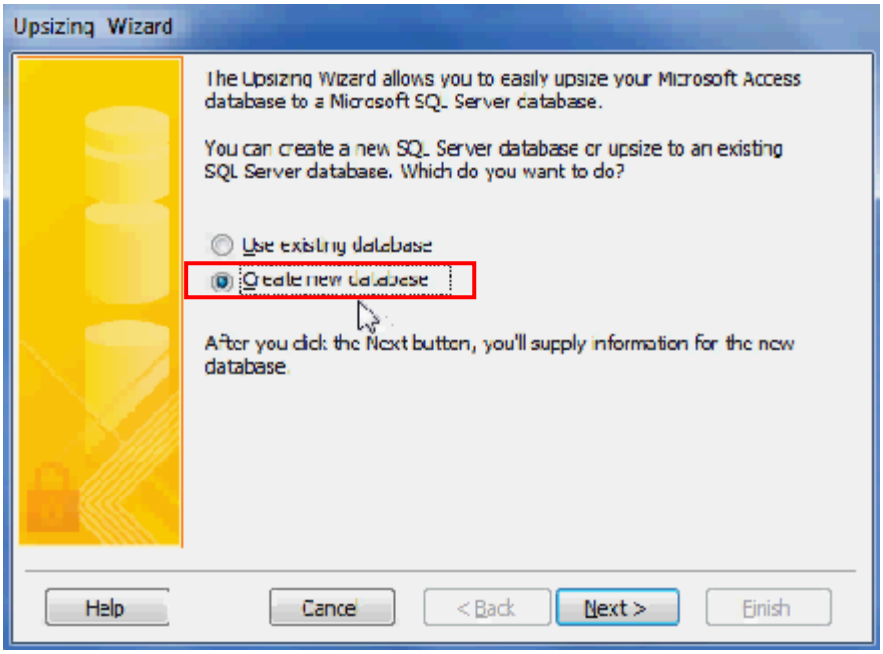
Edit the table name (Table1) and create data column (date, data1, data2).



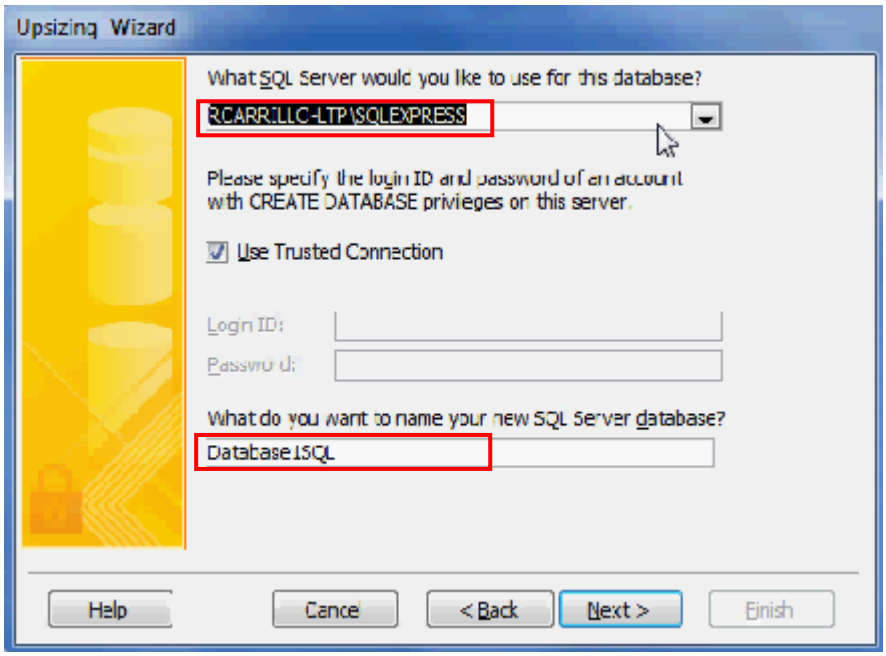
Execute『Database Tool』➔『SQL Server』.



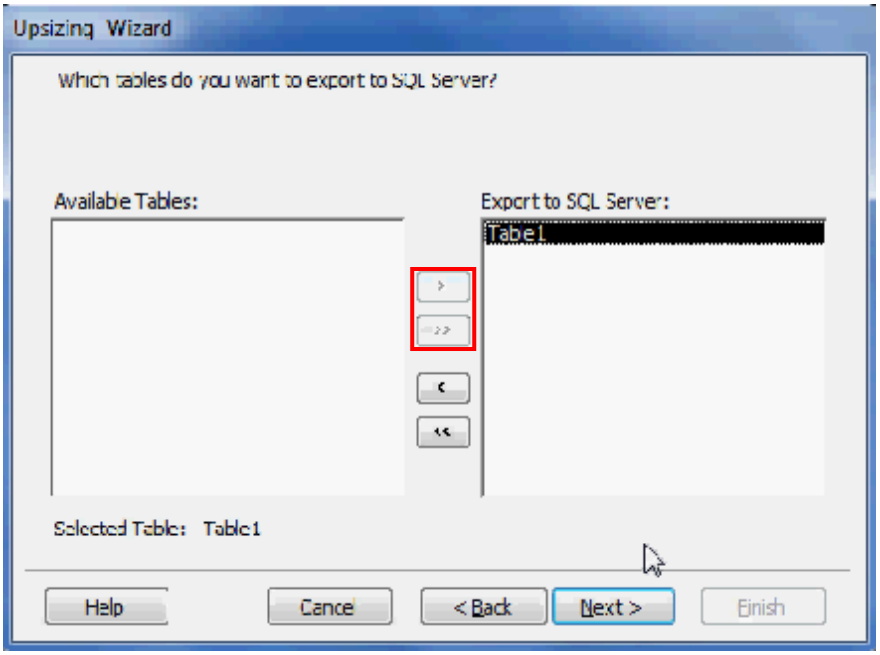
Select『Create New Database』and click『Next Step』.



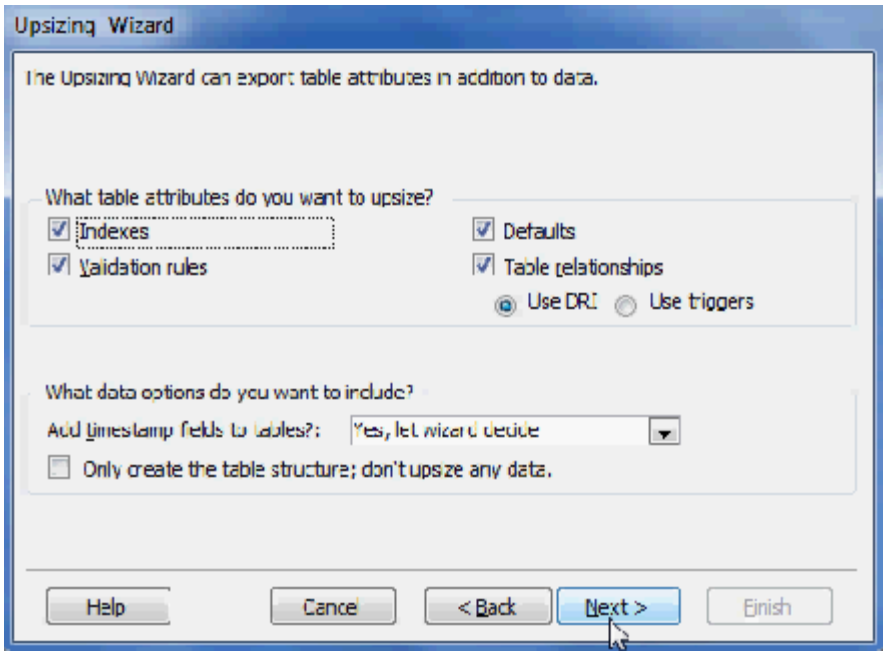
Choose SQL Server instance to use, and input the name for new SQL Server Database which is transferred from Access 2007 database.



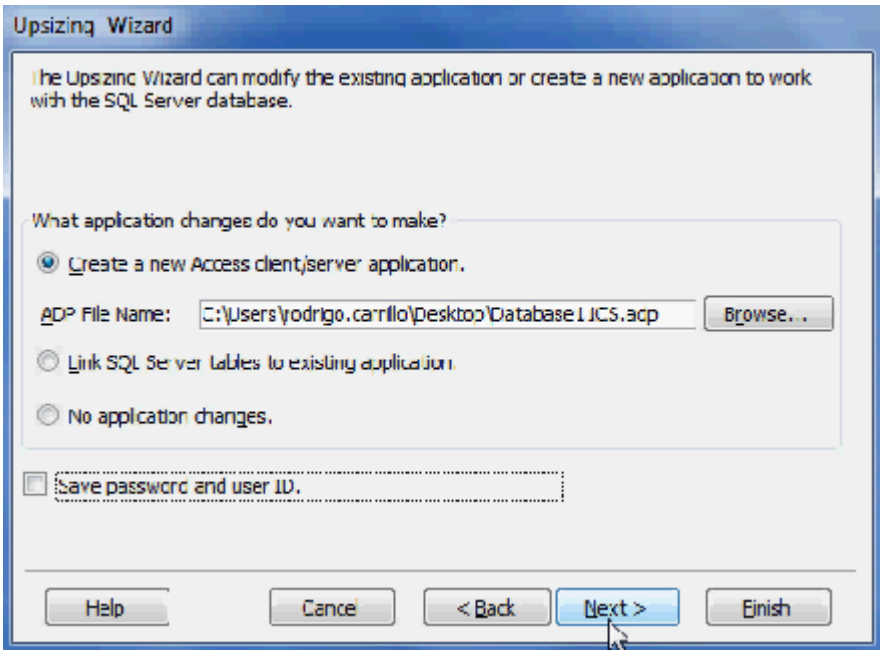
Choose the table exporting to SQL Server. After choosing, click『>』.



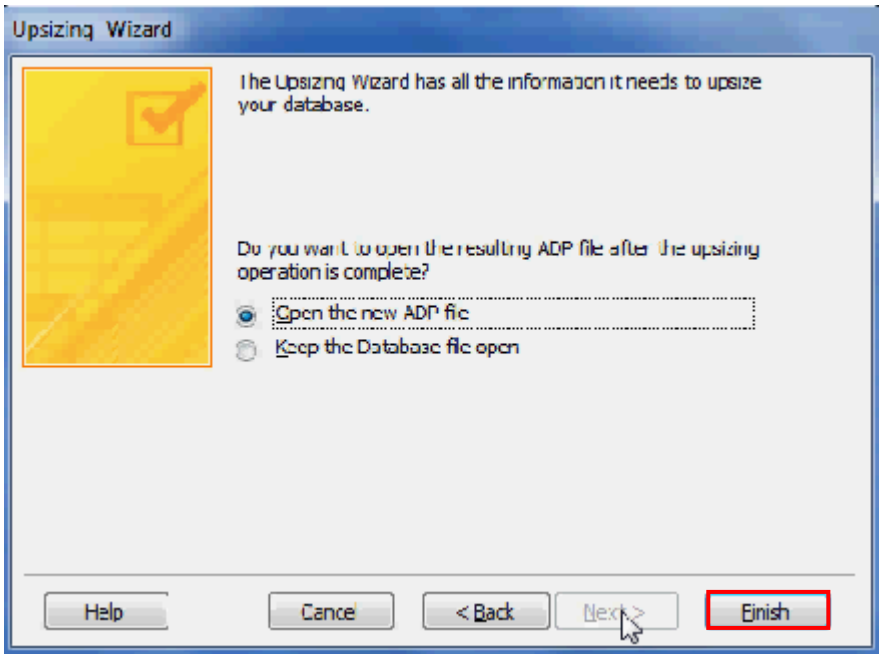
Setup the attributes of the transfering table and click『Next』.



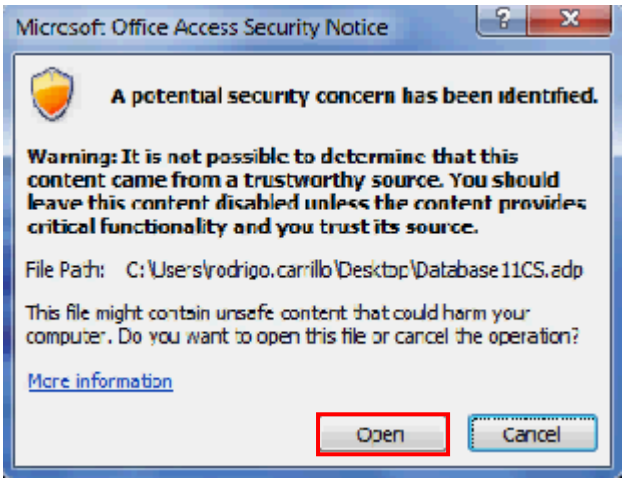
Setup the operation of the transfering database and click『Next』.



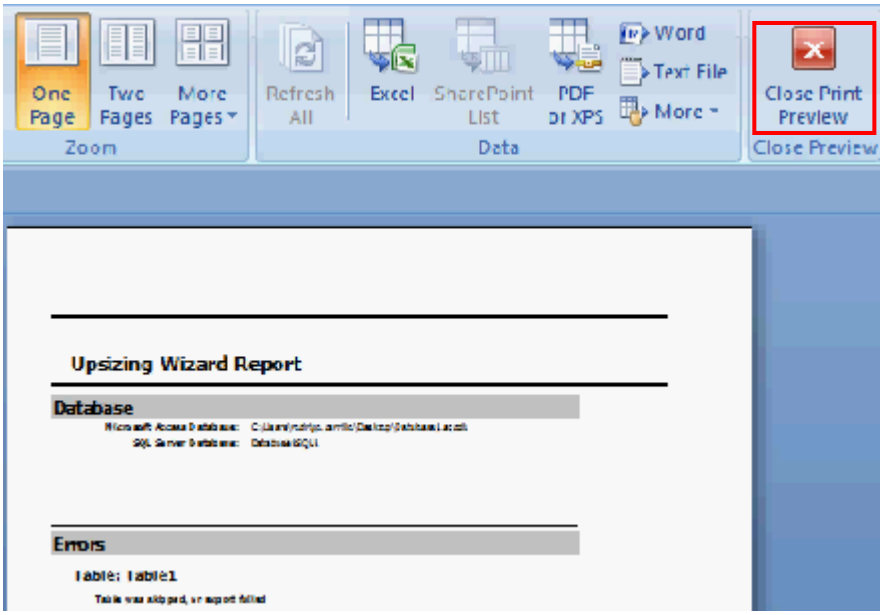
Complete setup steps and click『Finish』.



After finishing setup steps and the below window will show, then click『Open』.

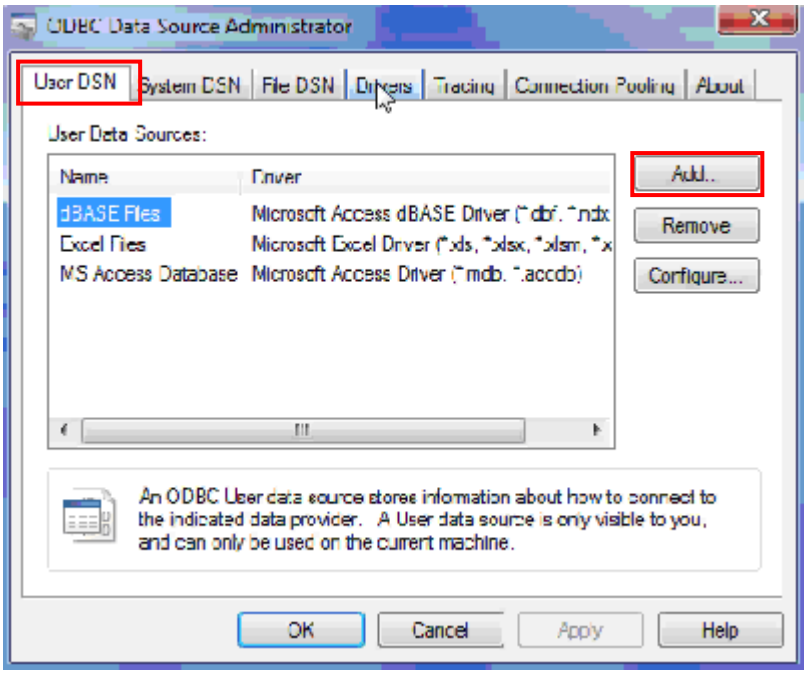


SQL transfering reporting will turn up and close it.

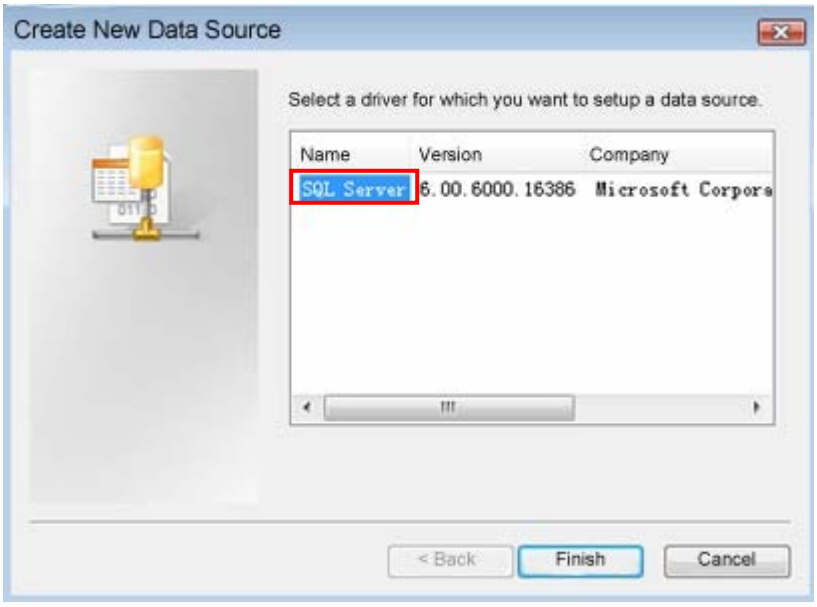


6. ODBC Setting：

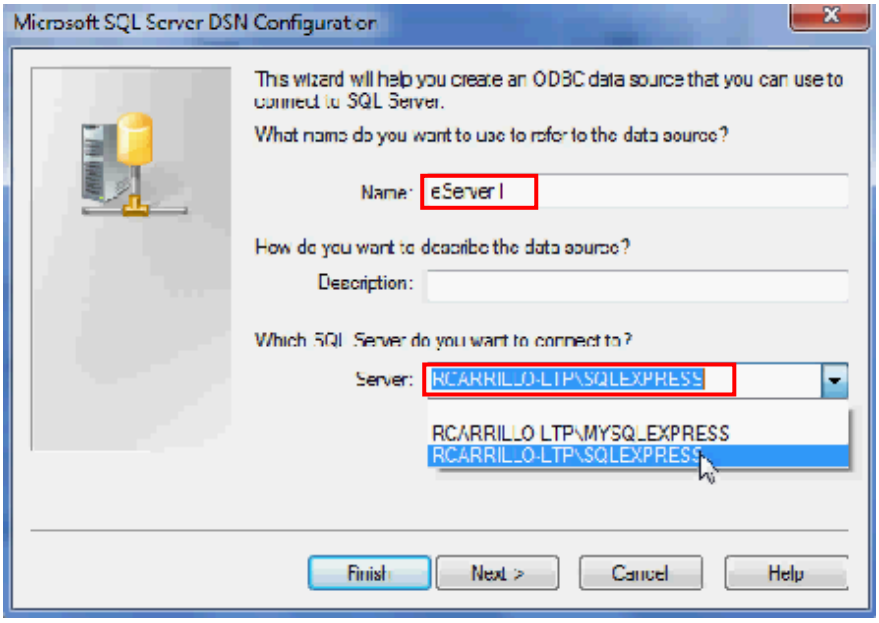
Click 『Control Panel』➔『Administrative Tools』➔『Data Source(ODBC)』, then enter the 『User DSN』and add a new item.



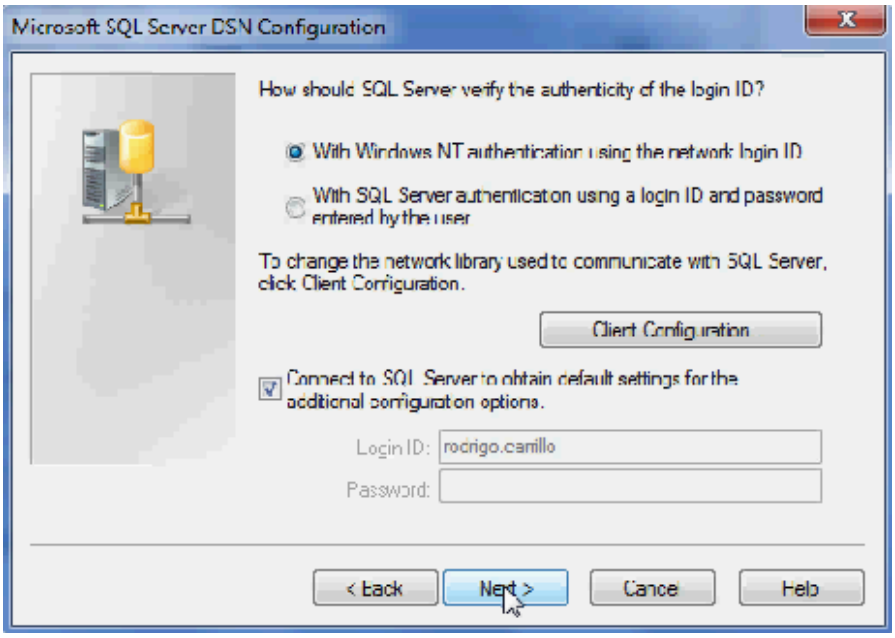
Choose『SQL Server』as the driver for DSN.



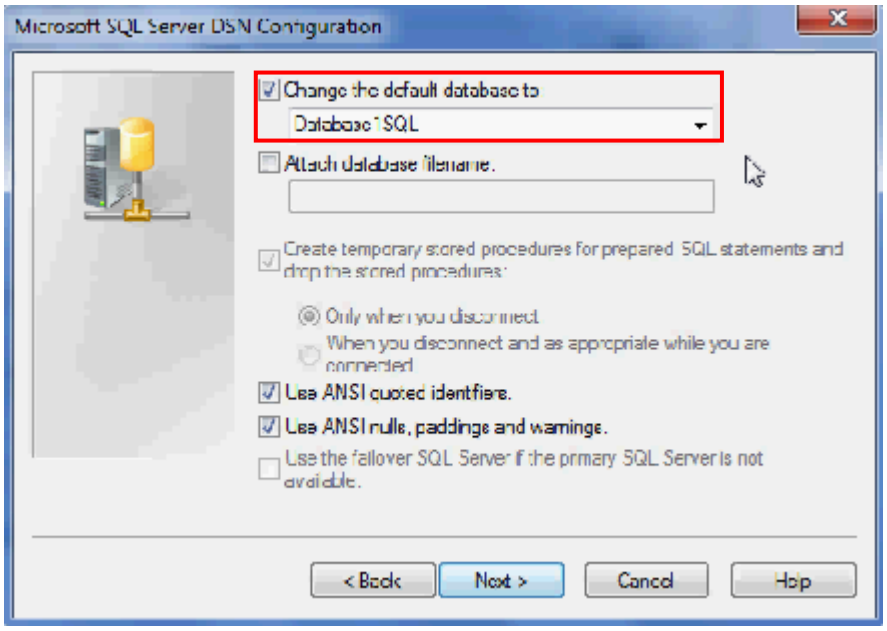
Input the name of ODBC and select connecting SQL Server.



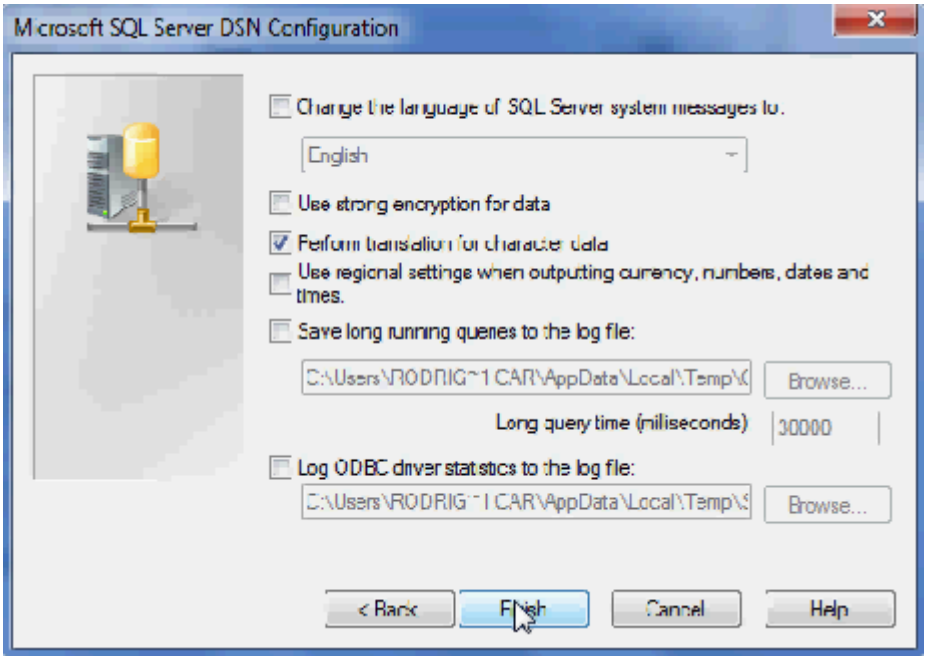
Choose the authentication method show as below figure and click 『Next』.



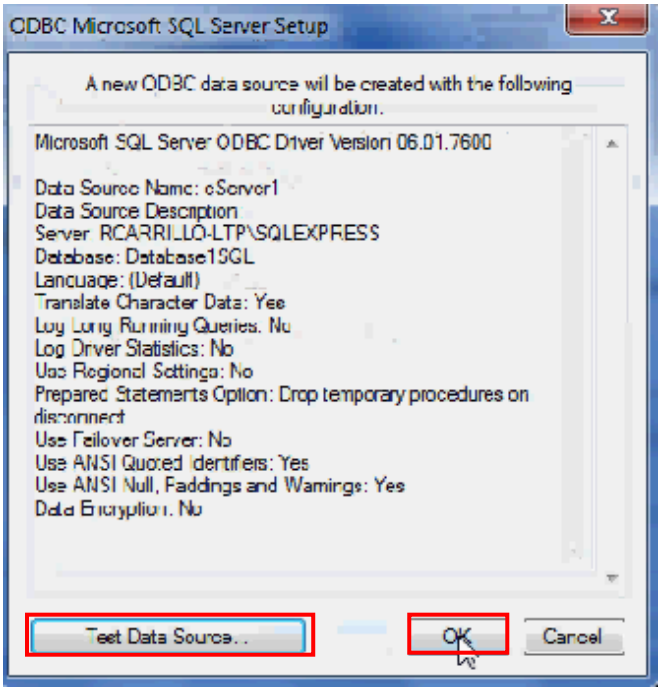
Choose the corresponding database to be the default database.



Setup as below figure and click『Finish』to finish the ODBC setup.

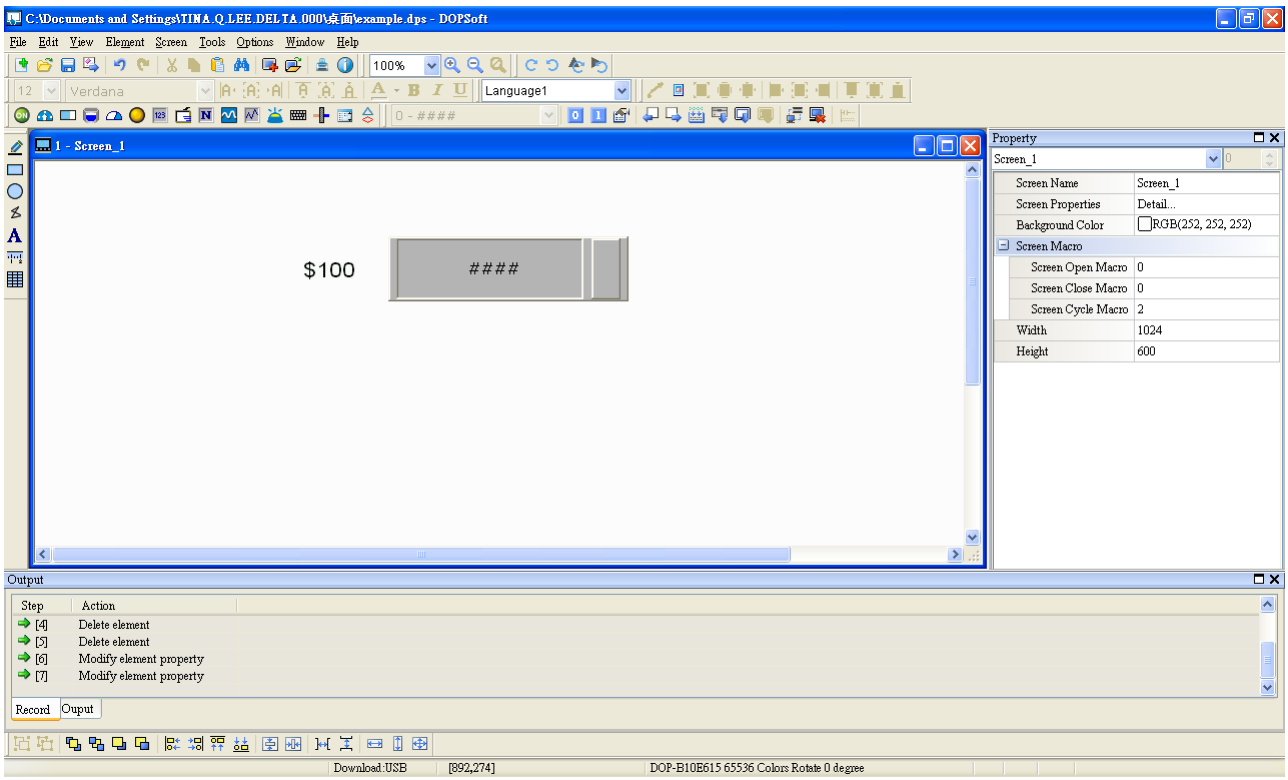


ODBC setup completes and can testing DSN.

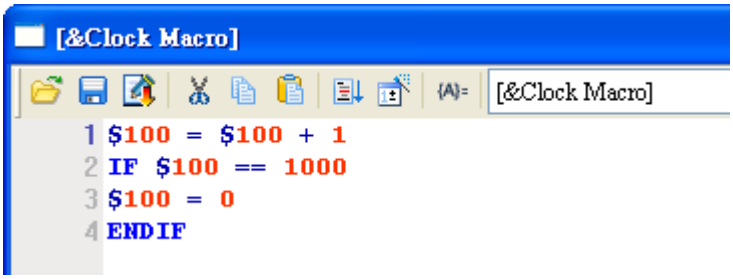


8.1.2 Create HMI Project File

Start DOPSoft software program and click 『File』➔『New』to create a new project. Then, click『Element』➔『Input』➔『Numeric Entry』to create a numeric entry element ($100) on the screen. In this case, B10E615 series HMI is used.

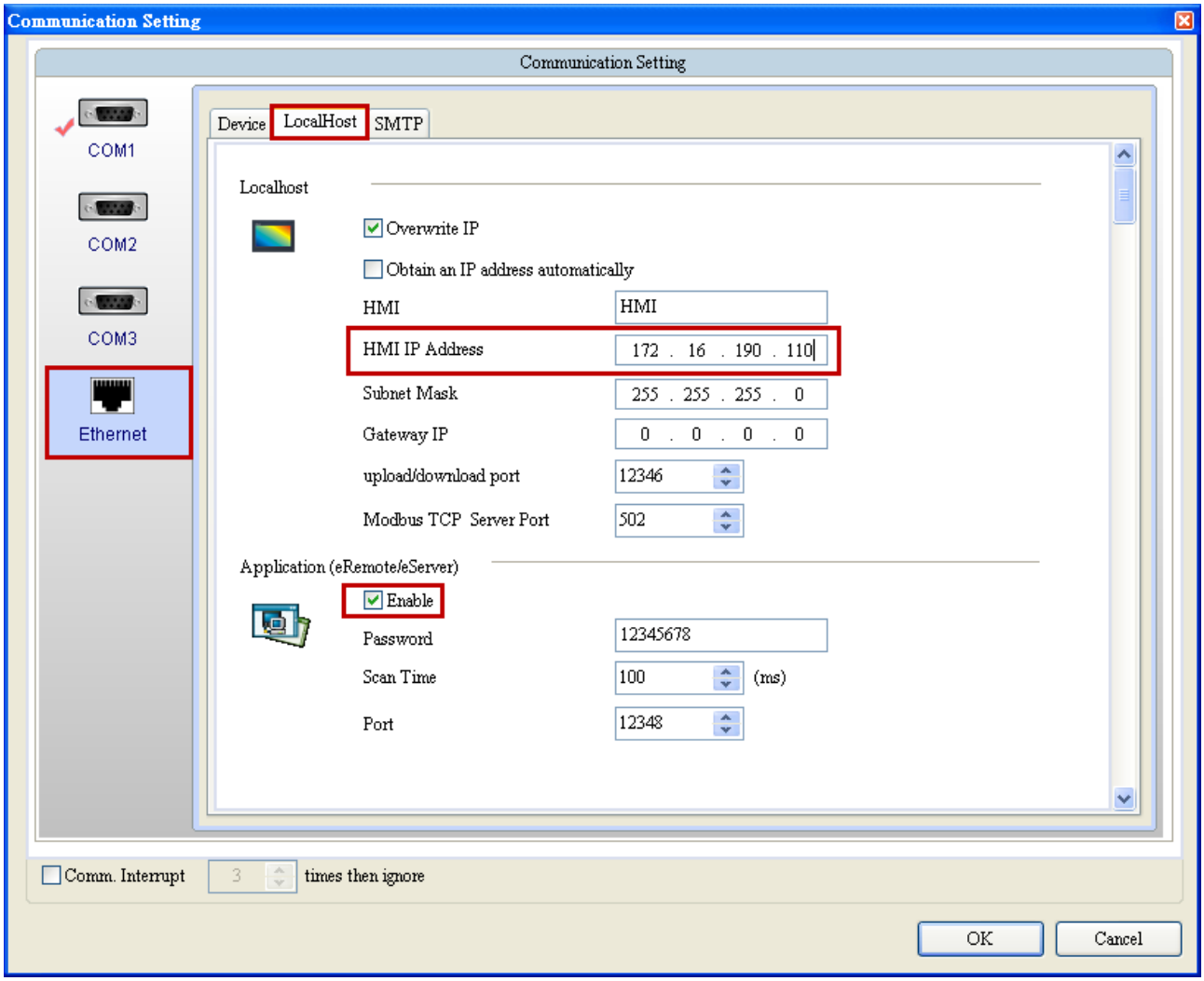


Use Screen Cycle Macro and enter the following commands in macro command window.



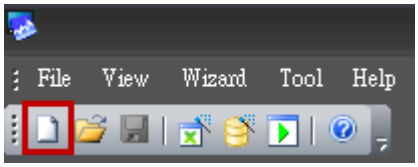
Click **Options > Communication Setting > Ethernet > LocalHost,** set HMI IP Address and check the Application(eRemote / eServer) function **Enable.** Then, press **OK** button to finish

the settings.

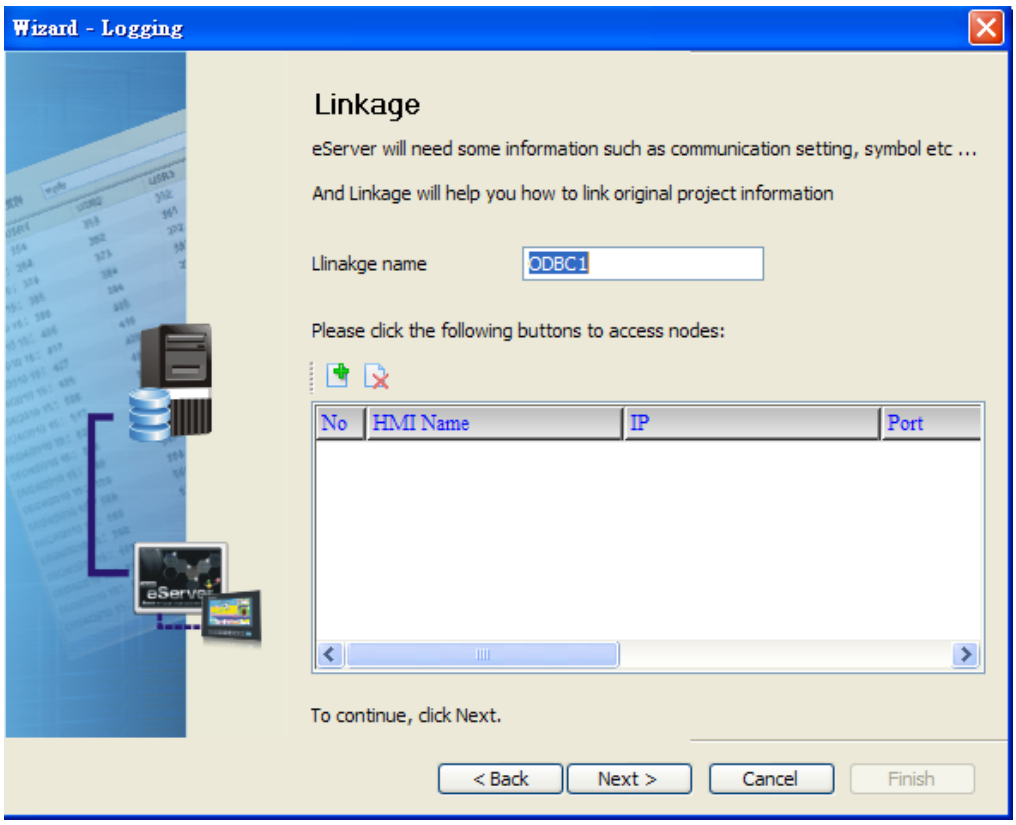


8.1.3 eServer Setting

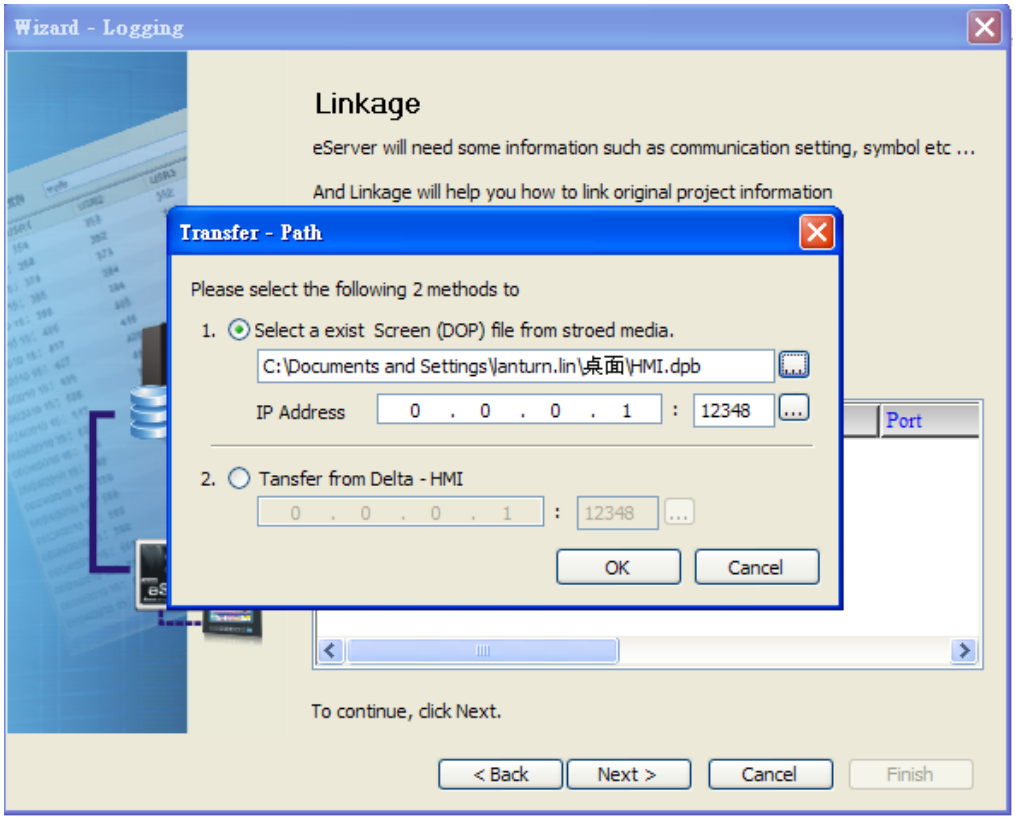
Open a new Logging (ODBC) project file.



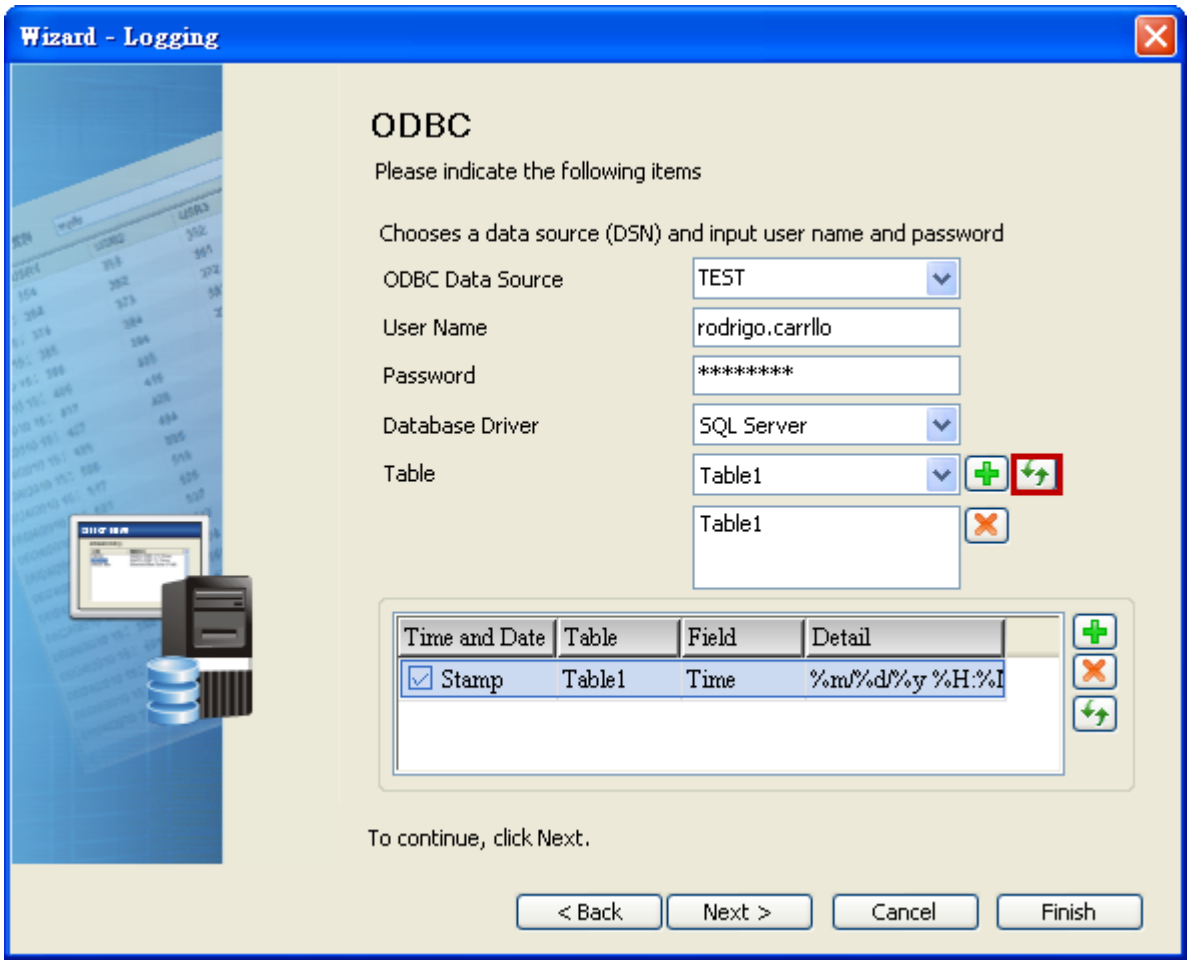
Click New icon to access nodes (link to HMI).



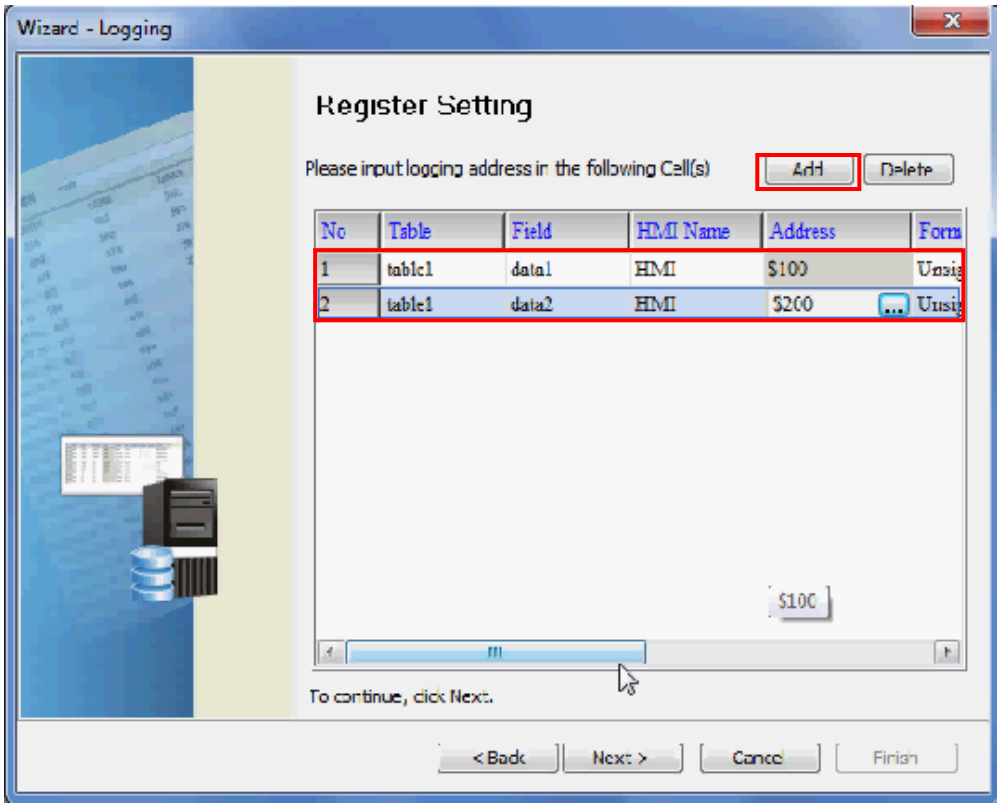
Choose a HMI screen project file to link with this eServer project.



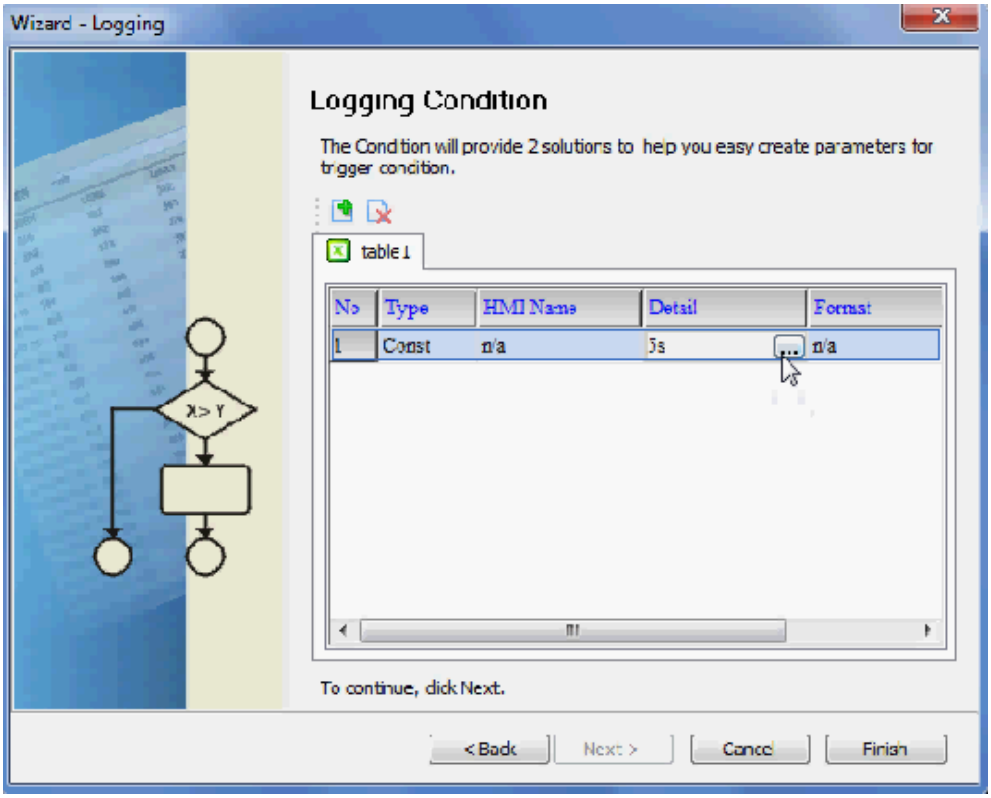
ODBC Data Source Setting: input the ODBC Data Source name, account and password. Press the refresh button and select the table name and click『+』, then chooses the field as below figure.



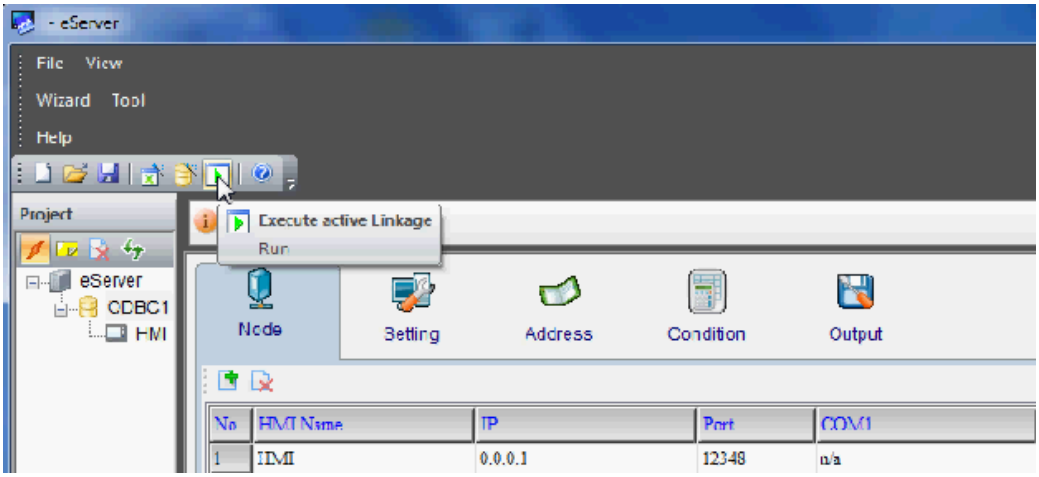
Set the register address to the corresponding field as below figure.



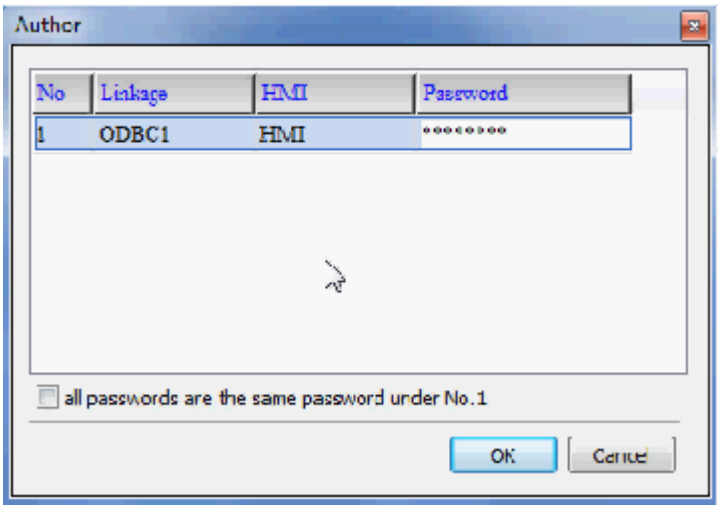
Set the sampling conditions as constant, and set the value as 5s.



Save and Execute.

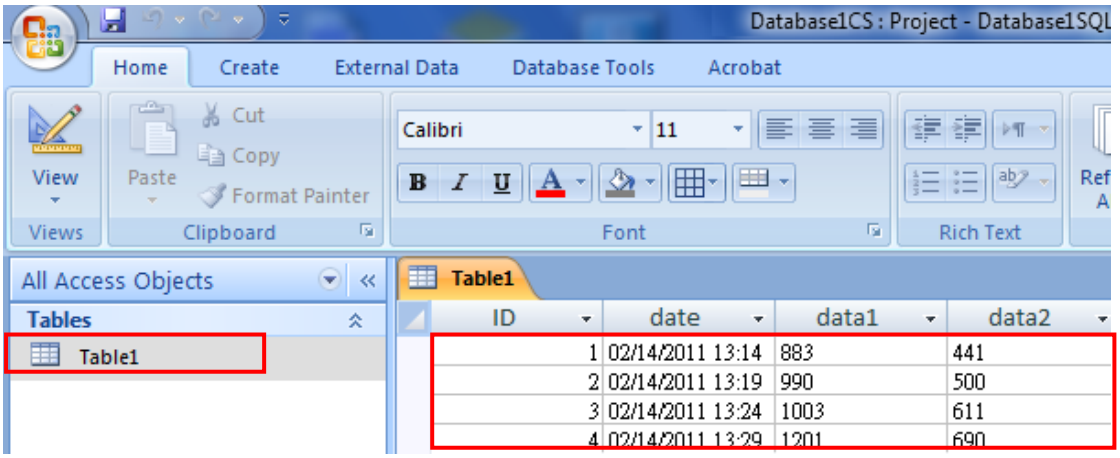


After the password is entered, the system will start sampling operation and write data in Microsoft Access.



eServer Logging Database：

We can see that a『Database1SQL』file is existed in the folder as the original created access 2007 file in. Logging data shows as below figure.



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Chapter 9 Writing Data in MySQL

Before creating testing example, make sure to change the upload and download option (**Options > Environment**) on DOPSoft first. The default setting of upload and download is via **USB**. If the users need to use **Ethernet**, please change the default setting by referring to **Appendix A**.

9.1 Example

This example is used to help the users to understand how to use eServer to read the data of the register addresses $3 and $6 every second, record the data in MySQL via ODBC interface, and save the collected data into the specified folder (C:\Data).

9.1.1 Software Installation

1. AppServ Introduction

AppServ is a free and full-featured software of Apache HTTP Server, MySQL, PHP, and phpMyAdmin. To download it, go to http://www.appservnetwork.com.

Package of AppServ

- Apache HTTP Server: It is a free and open source HTTP Server.
- MySQL: It is a relational database management system.
- PHP: It is a free and general-purpose scripting language designed for web development.
- phpMyAdmin: It is web-based open source tool written in PHP for MySQL database management.

After double clicking the appserv-win32-2.5.10.exe file downloaded from the website exe file, the following dialog box will appear.

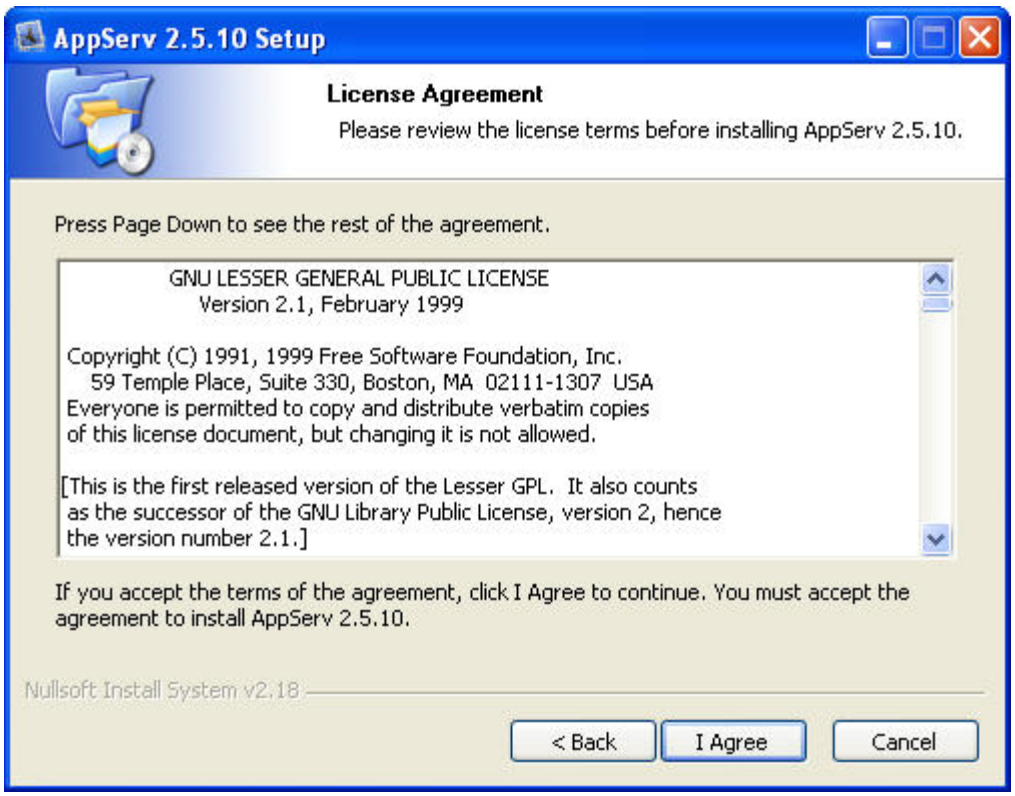




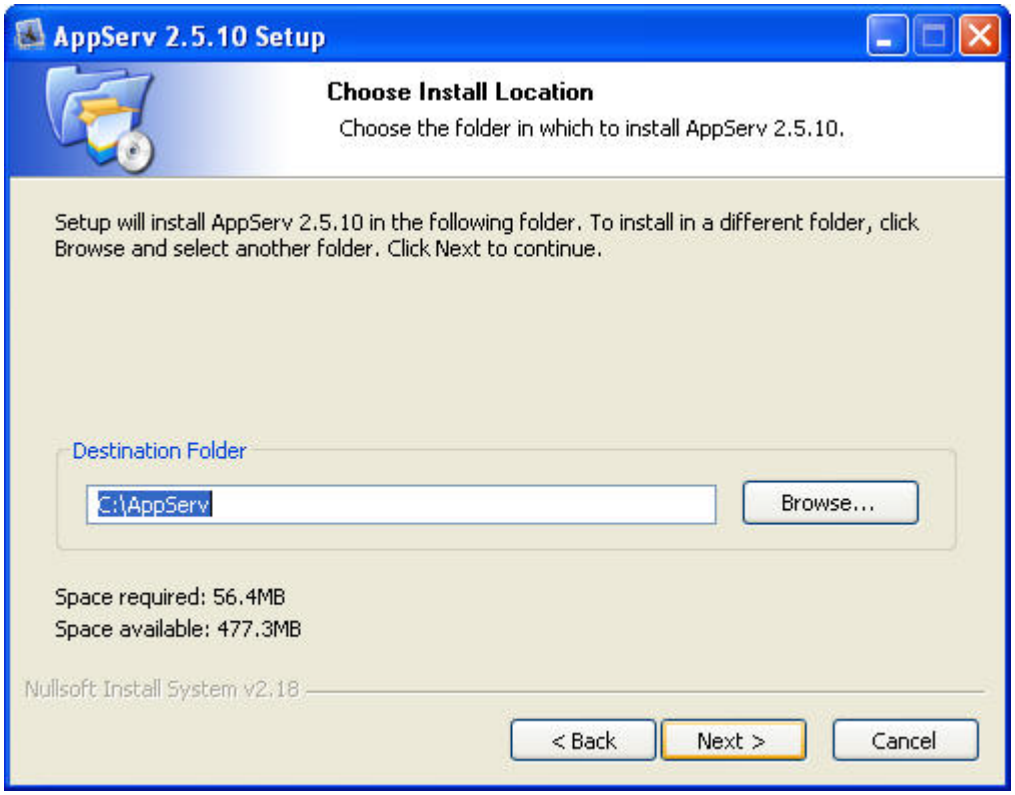
Click on **Run** button to install AppServ.



Click on **Next** button to go to the next step.

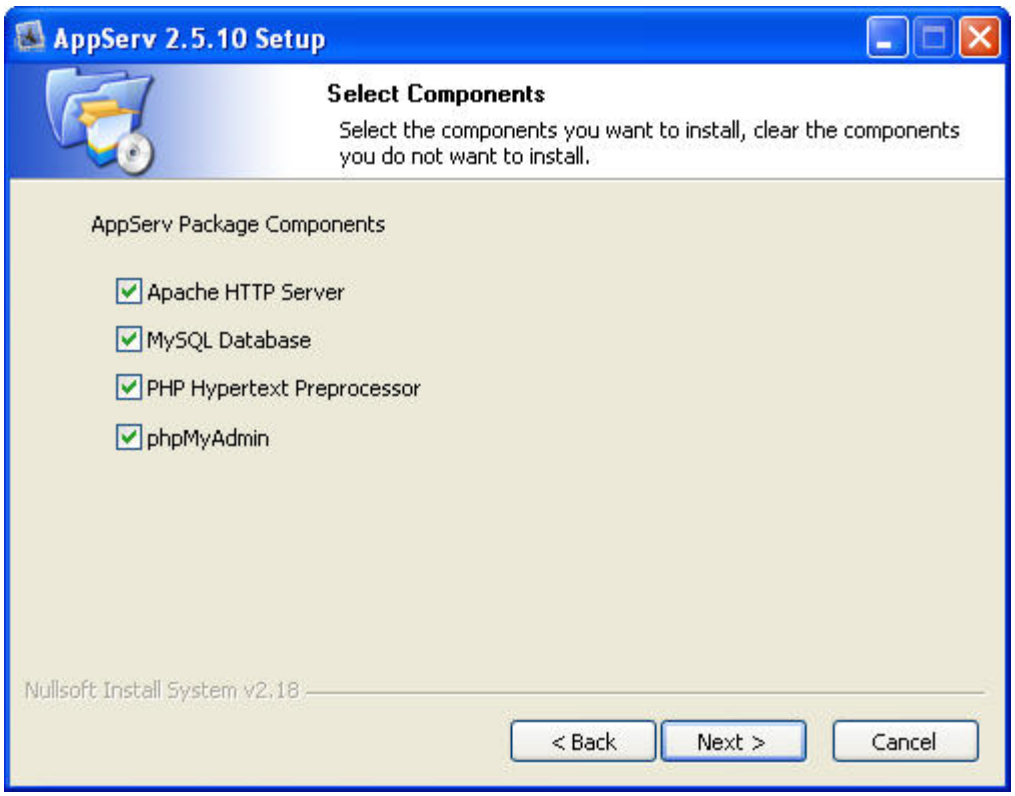


The users must read license agreement before installation. Click on **I Agree** button to continue.

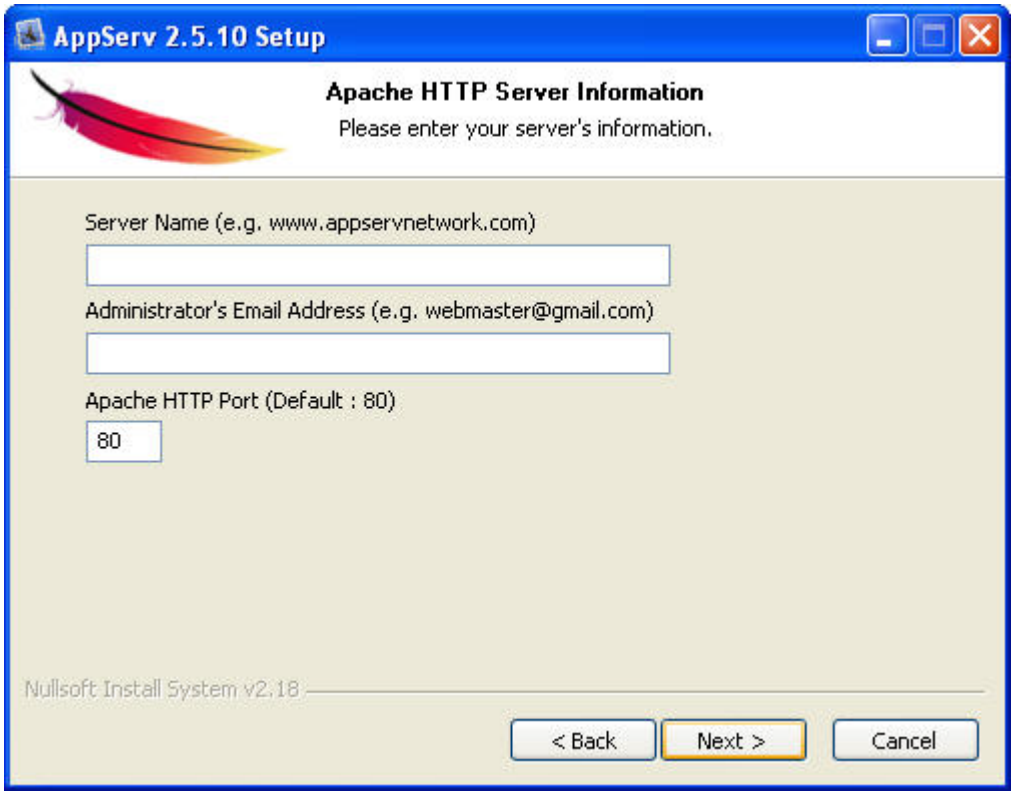


Select the default directory C:\AppServ, and click on **Next** button for the next step.

To select a directory other than the default directory, click **Browse**.



Then, select the AppServ Package Components to install, and click on **Next** button for the next step.



Specify Server Name, Administrator's Email Address and Apache HTTP port for Apache Web Server. When perform testing, the Servo Name can be specified as **localhost** directly. Click on **Next** button for MySQL Server Configuration settings



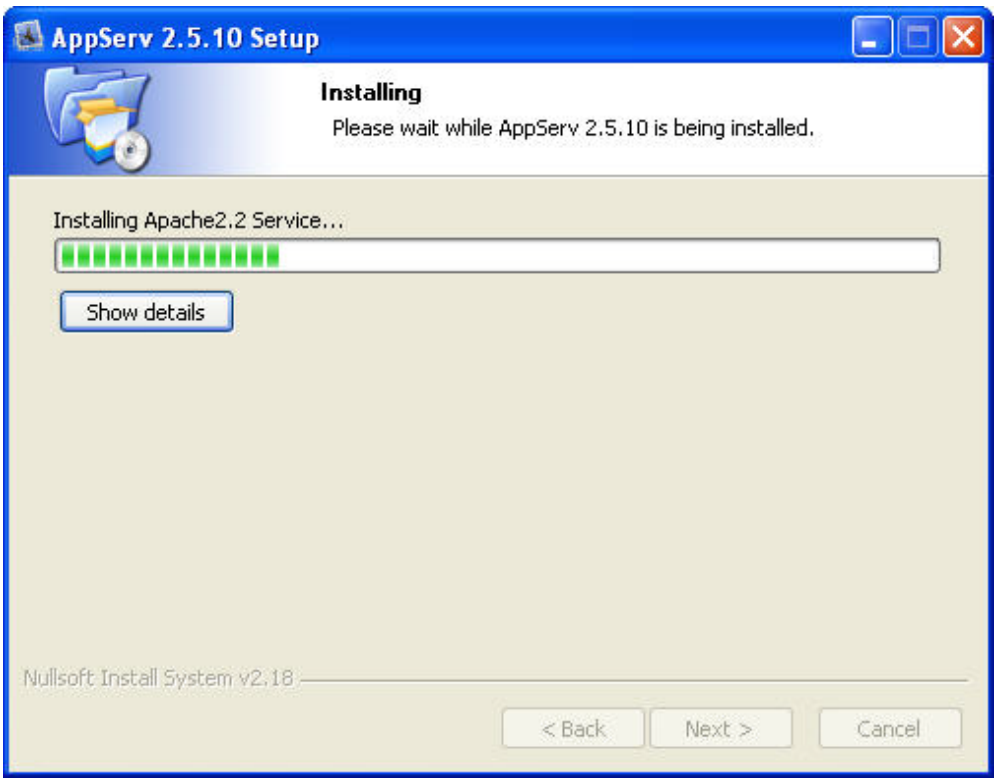
Enter root password for MySQL database and complete the settings for MySQL Server.

Character Sets and Collations: The users can select data storage language and collations from the drop-down menu.

Old Password Support (PHP MySQL API function): When this option is selected, the users can code PHP code with old MySQL API.

Enable InnoDB: When InnoDB is used, ensure to select this option.

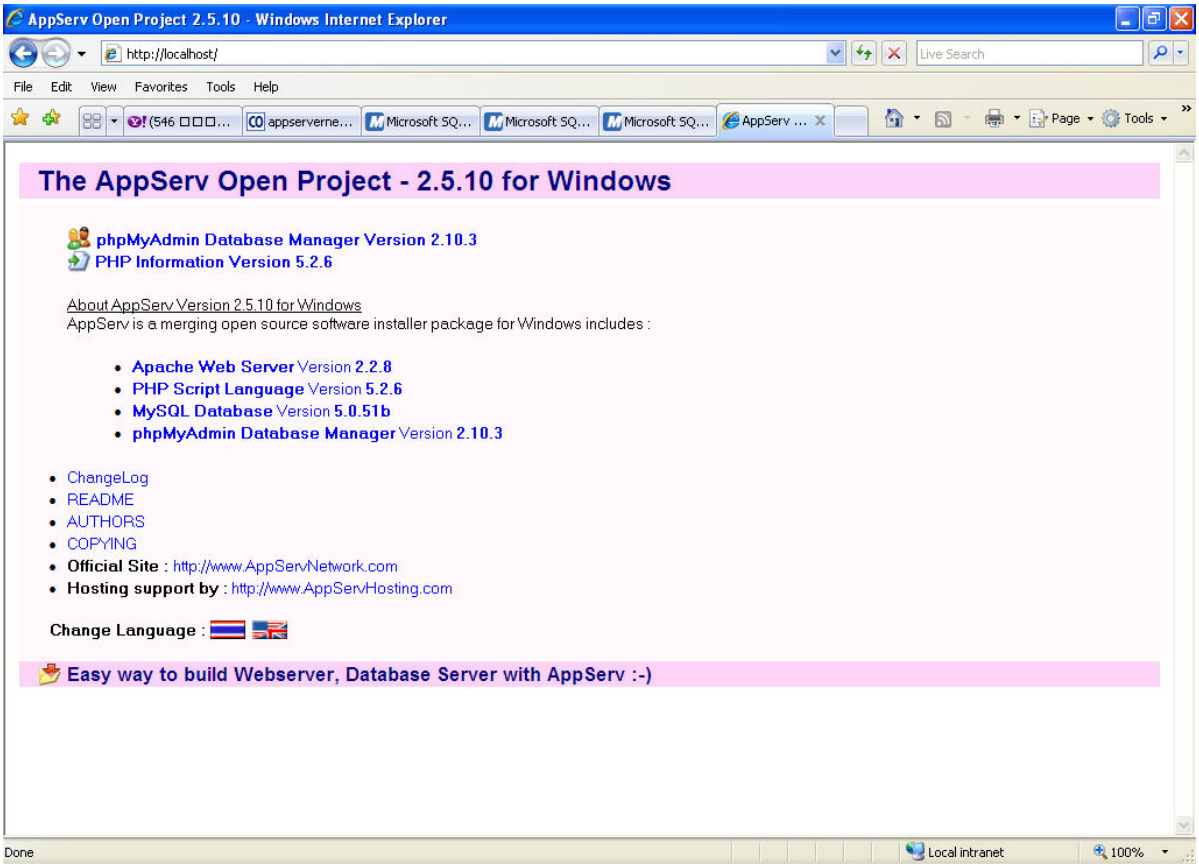
Click on **Install** button to installing Apache.



Click on **Finish** button to complete AppServ setup.

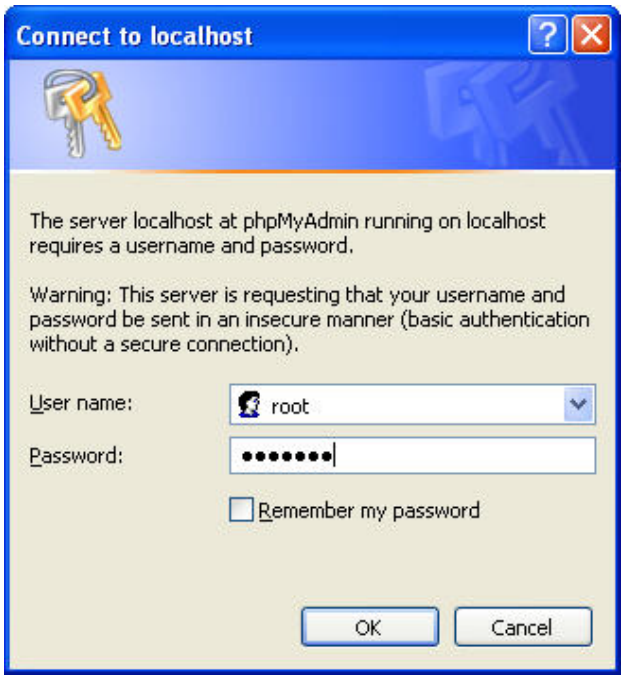


After installing AppServ, please restart the computer. After restart computer, users can view the web site by pointing a web browser to http://localhost/. If the following screen displays, it indicates that Apache has been installed successfully.

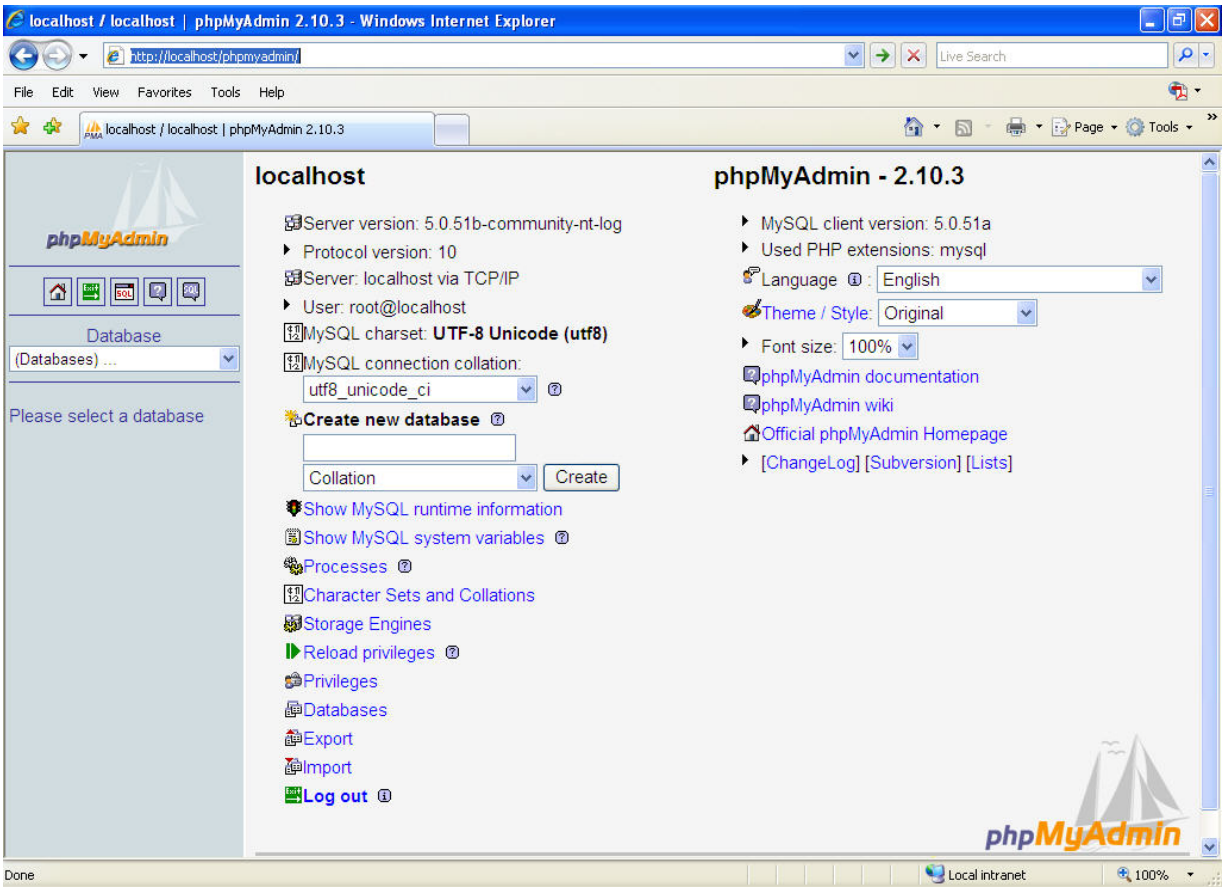


2. MySQL Settings

Use phpMyAdmin built-in AppServ to perform the relevant MySQL settings. Open the browser, type: http://localhost/phpMyAdmin/, a **Connect to localhost** dialog box will display. Enter **root** for username and your password for password (The default administrator account is root, but depending on your setup it may be a different user name.)

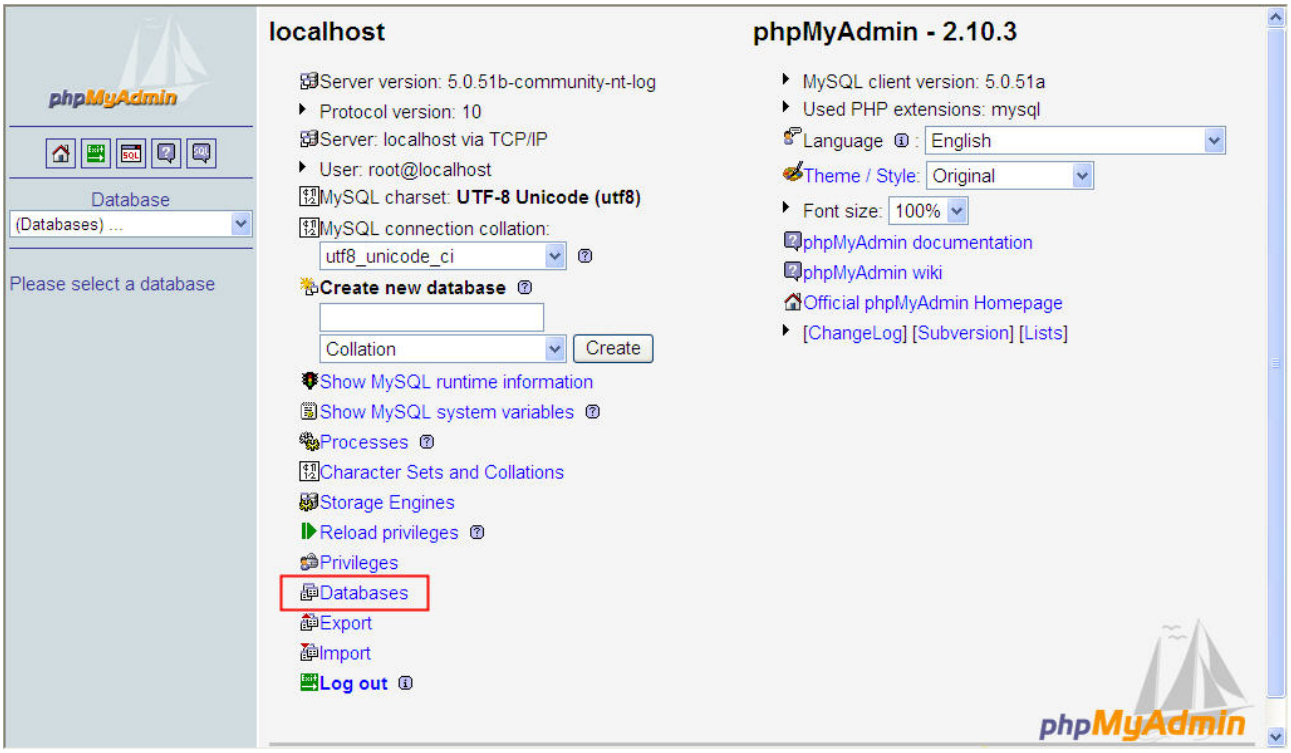


Then, it will connect to MySQL database.

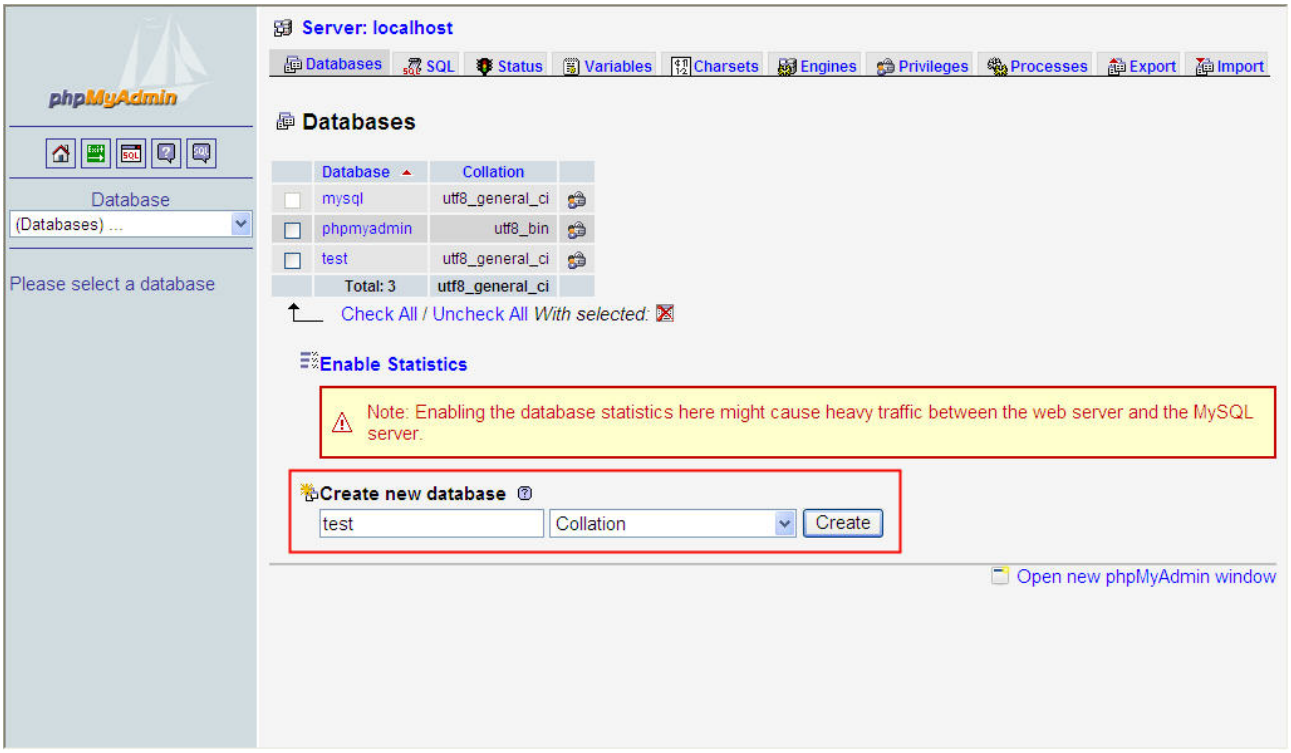


A. Create New Database

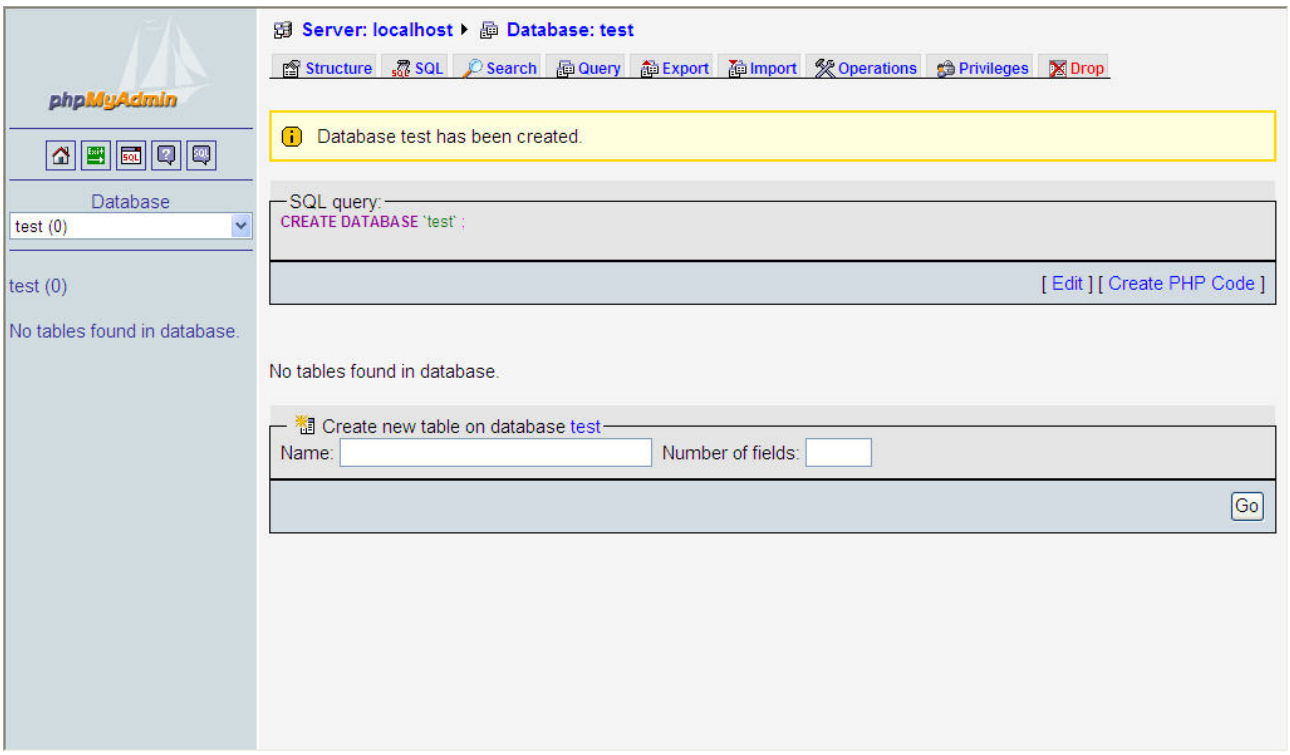
Click on **Databases** link.



Enter the name of the new database. In this case, the name of the new database is entered as **test**. Click on **Create** button for the next step.



A new database has been created.

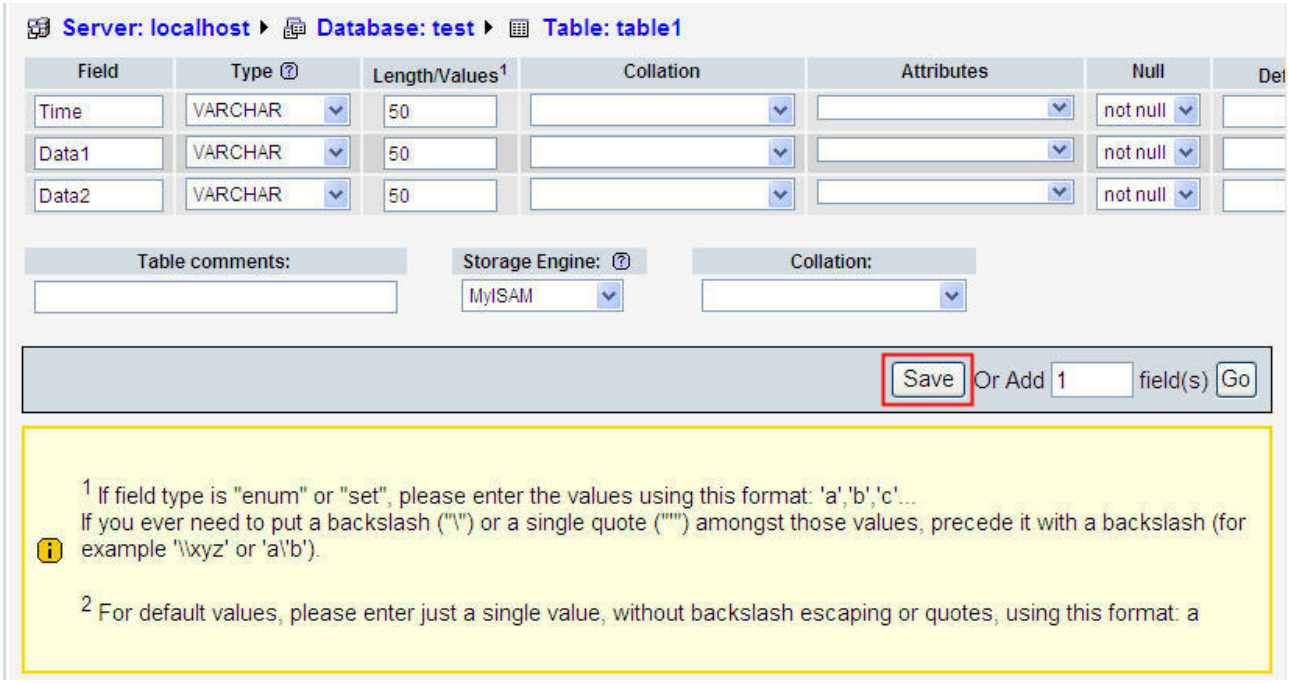


B. Create New Table

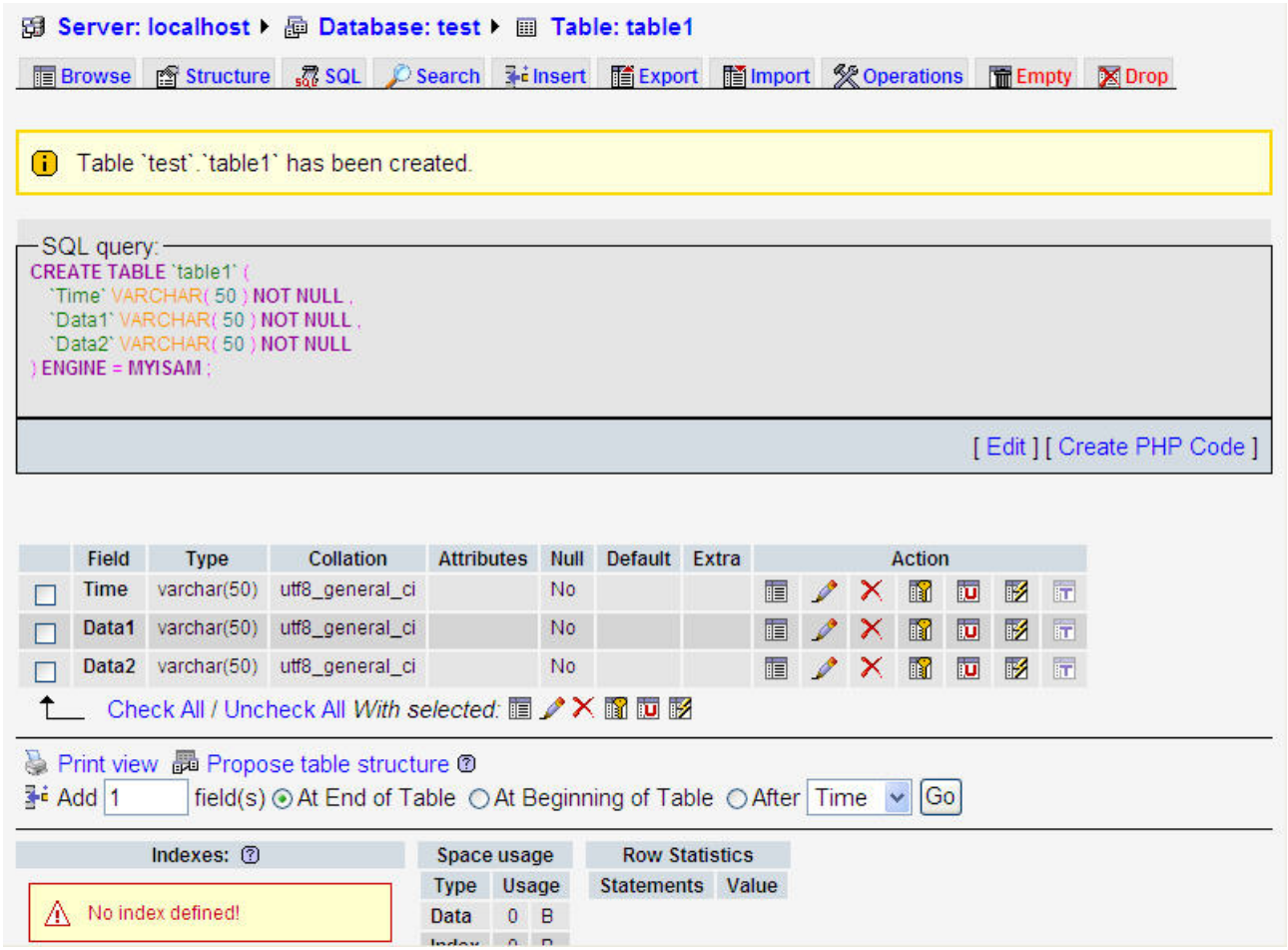
Click on **Structure** link to create new table on database. In this case, the new table is named as table1 and the number of fields is set to 3. After **Go** button is pressed, a new table on database will be created.



Complete the settings by referring to the figure below and press **Save** button to save changes.

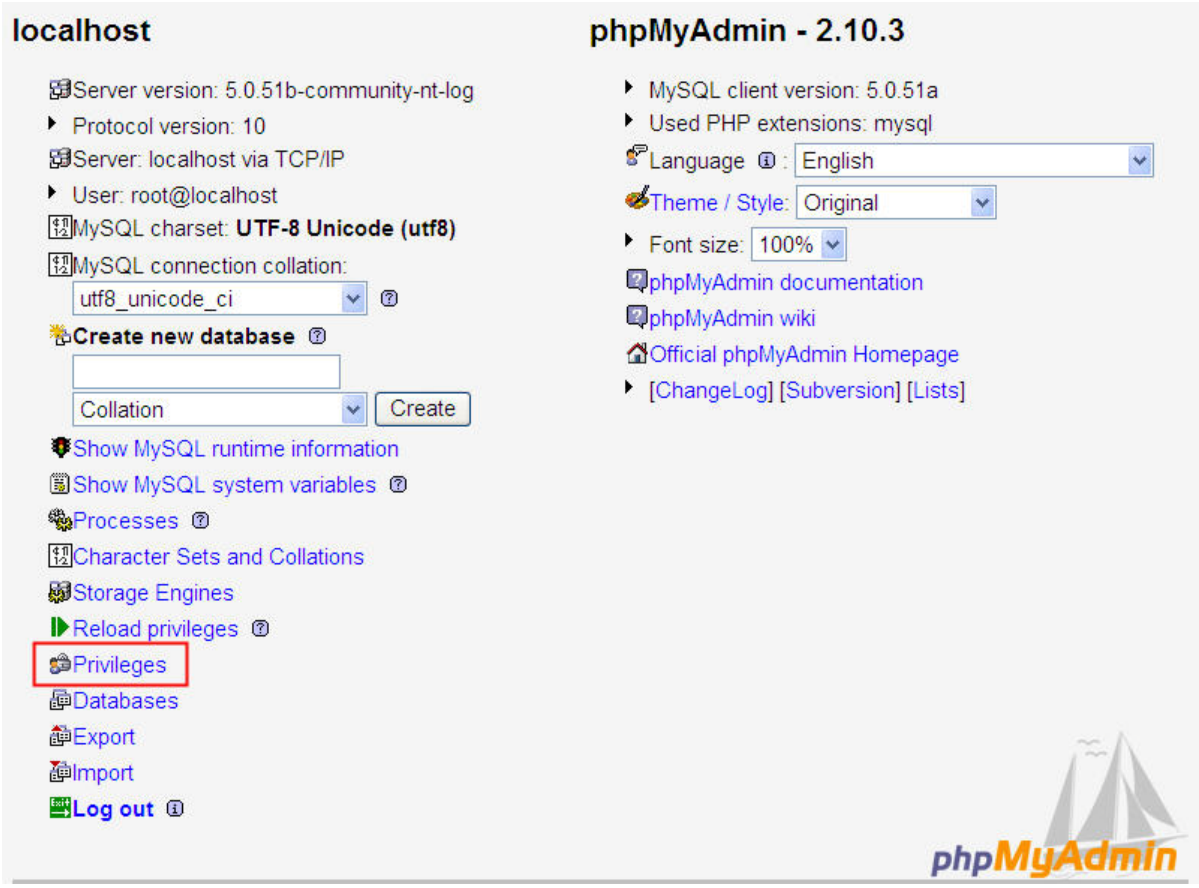


After the table1 has been created, the screen will be shown as follows.

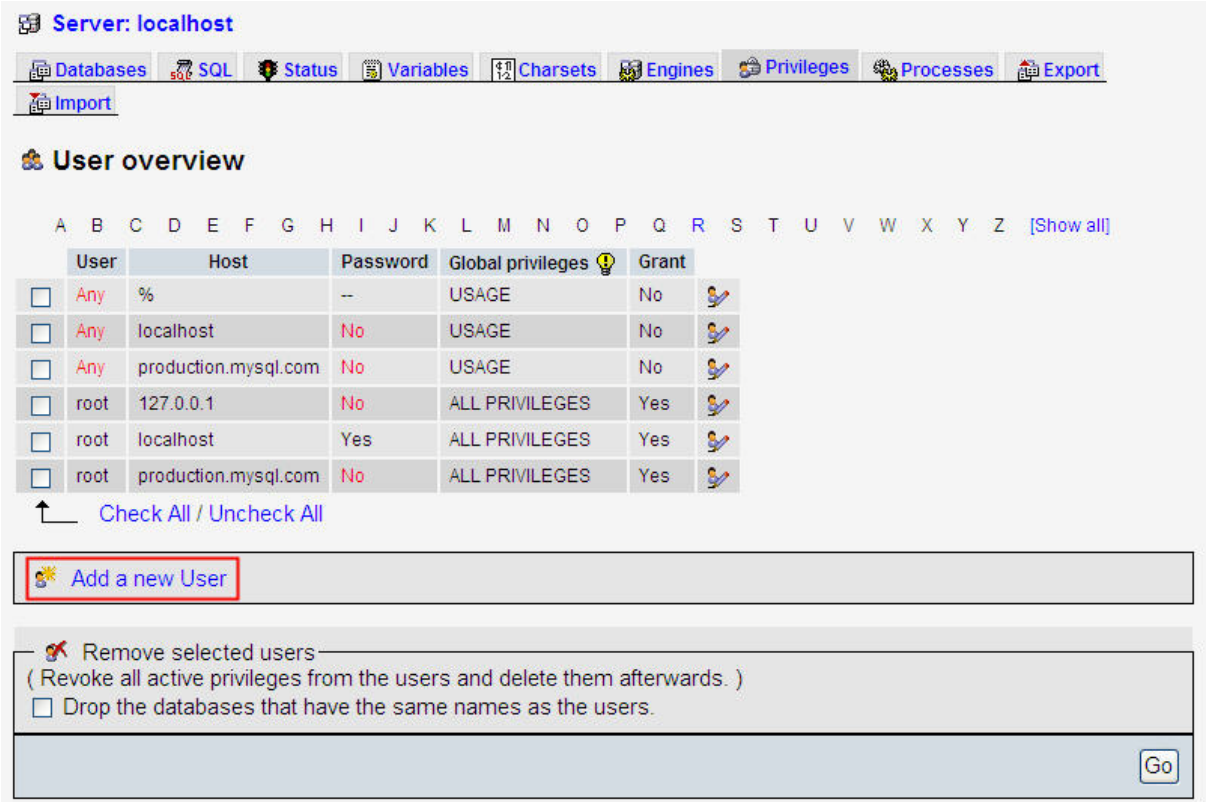


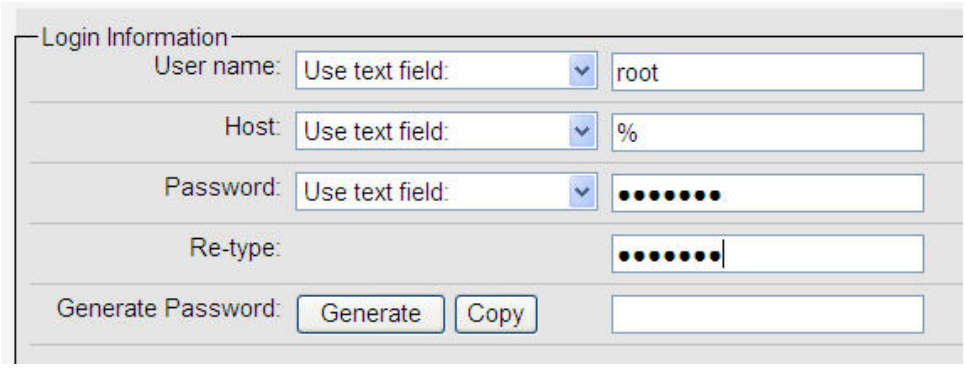
C. Create New User

Click on **Privileges** link to open User overview page.



Click on **Add a new User** link to display the add new user page





Login Information:

User name: Enter user name **root**

Host: Select **Any host** from the drop down menu and insert a **%** code.

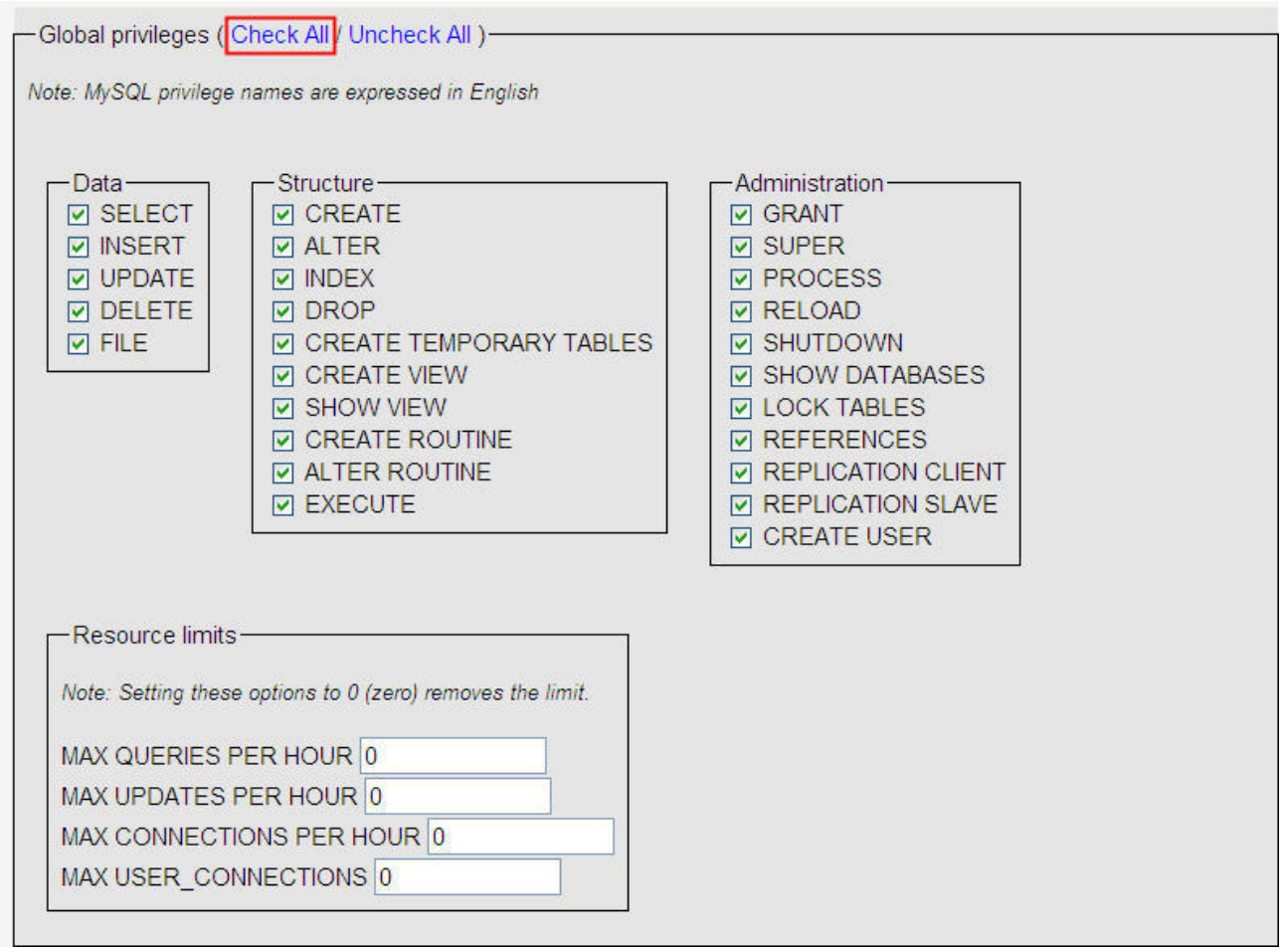
Password: Enter the desired password

Re-type: Re-enter the desired password

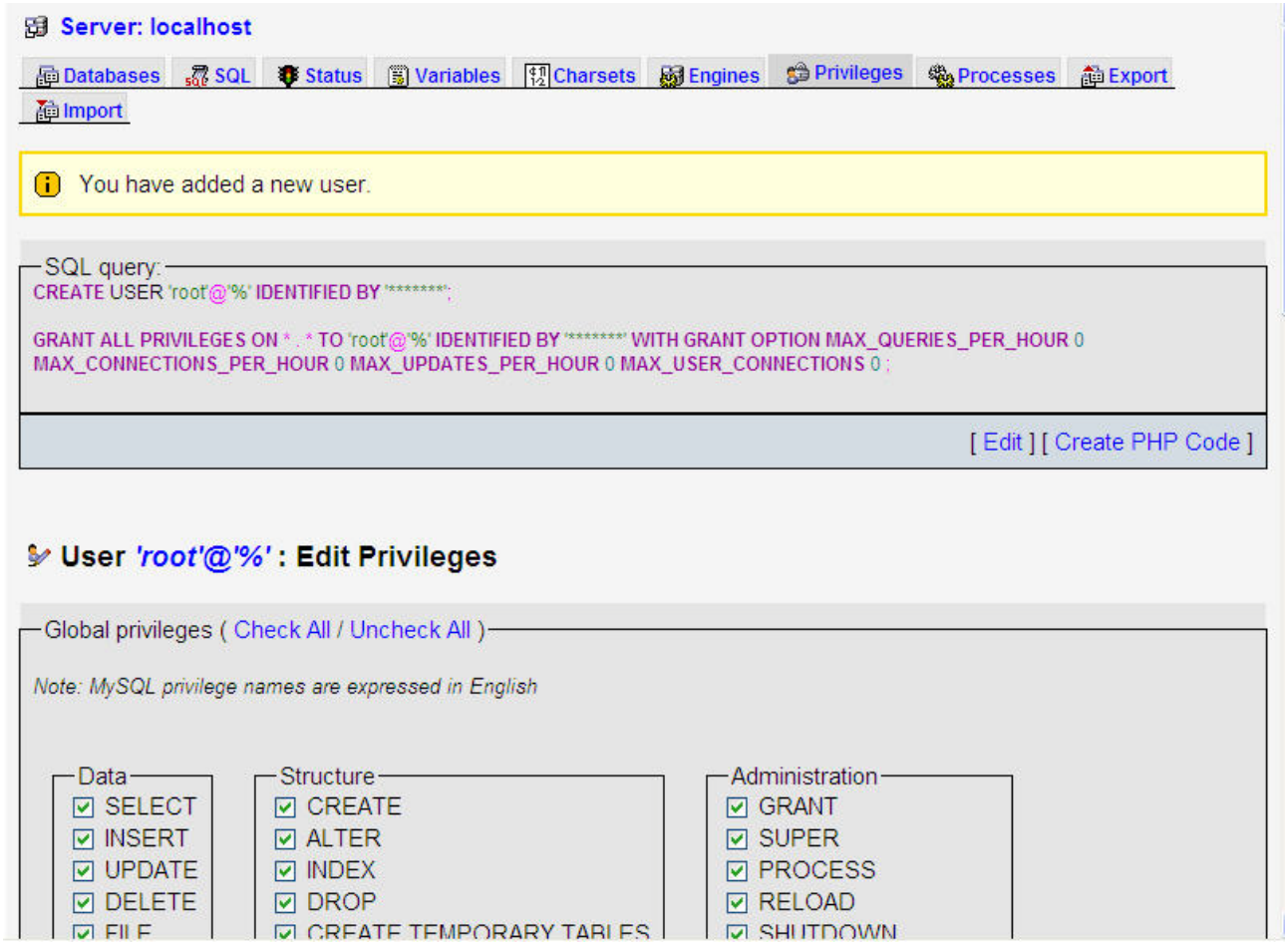
General Password:

- Click on **Generate** button to automatically generate a password.
- Click on **Copy** button to insert the password into the fields of Password and Re-type.

Scroll the screen down and click on **Check All** link to select all privileges. Then, click on **GO** button to create a new user.

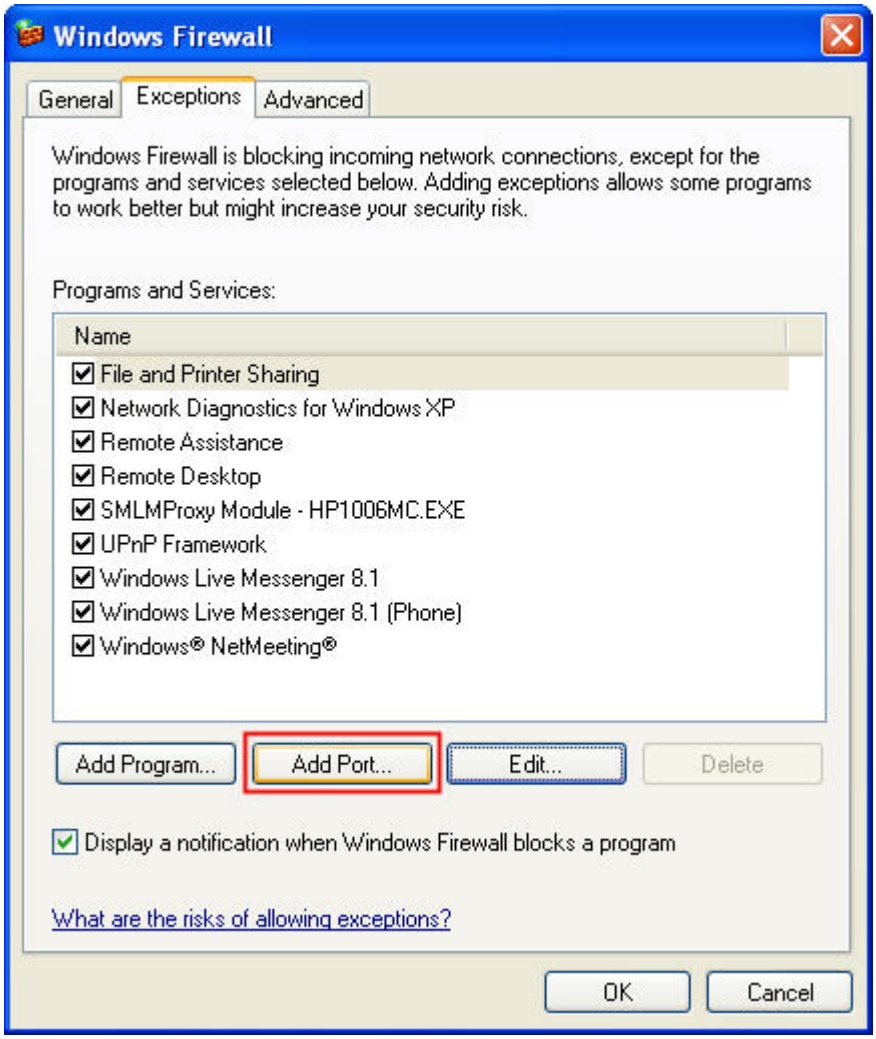


A conformation message will be displayed as follows.

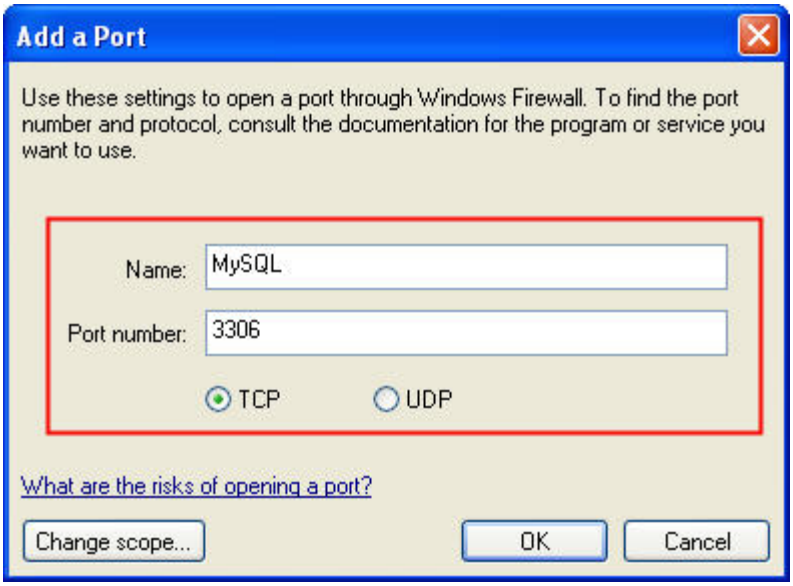


3. Setting Windows Firewall

Click **Start** and then click **Control Panel**. In the **Control Panel**, click **Windows Security Center > Windows Firewall**. Then, click on the **Exceptions** tab.



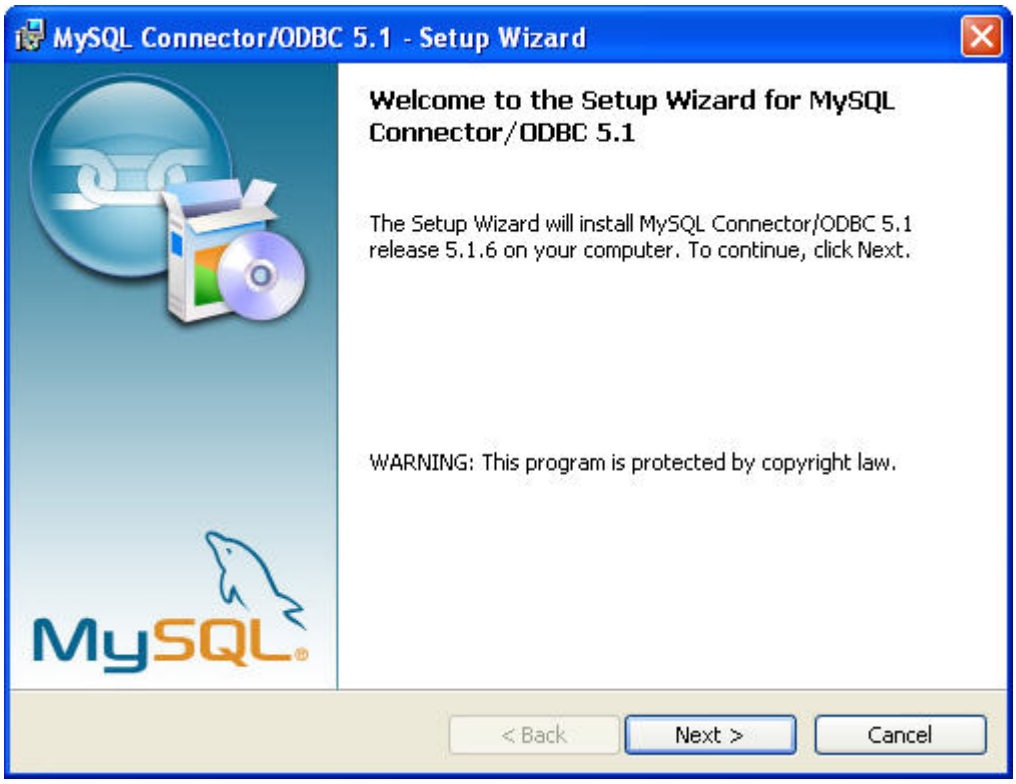
Click **Add Port** button and the following **Add a Port** dialog box will appear.



In the Add a Port dialog box, type MySQL in the Name text field and type the port number of the instance of the Database Engine, such as 3306 for the default instance in the Port number text field. Ensure that TCP is selected and click OK to complete the settings.

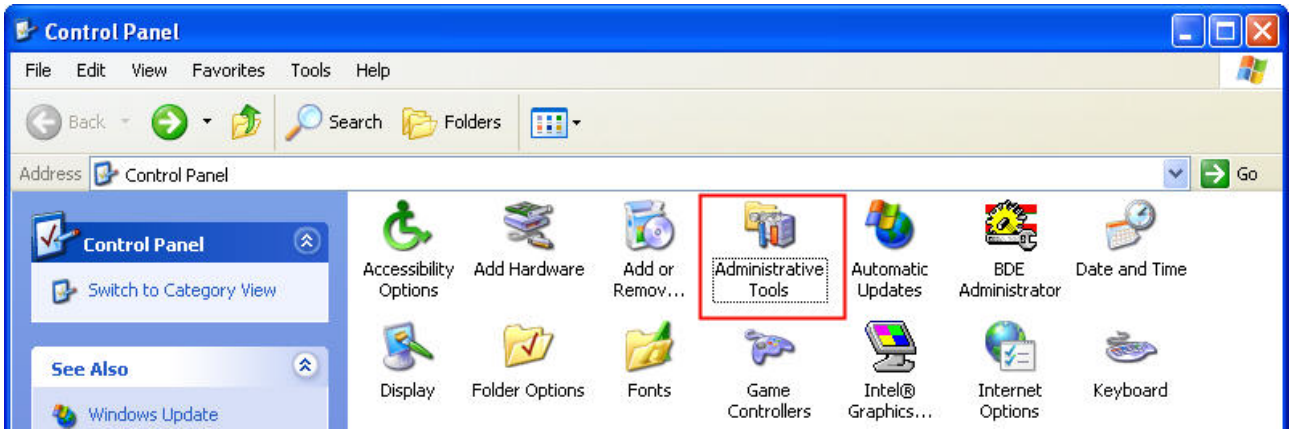
4. Connector/ODBC Installation

Connector/ODBC is a standardized database driver which can be downloaded from MySQL website at http://dev.mysql.com/downloads/connector/odbc/5.1.html.

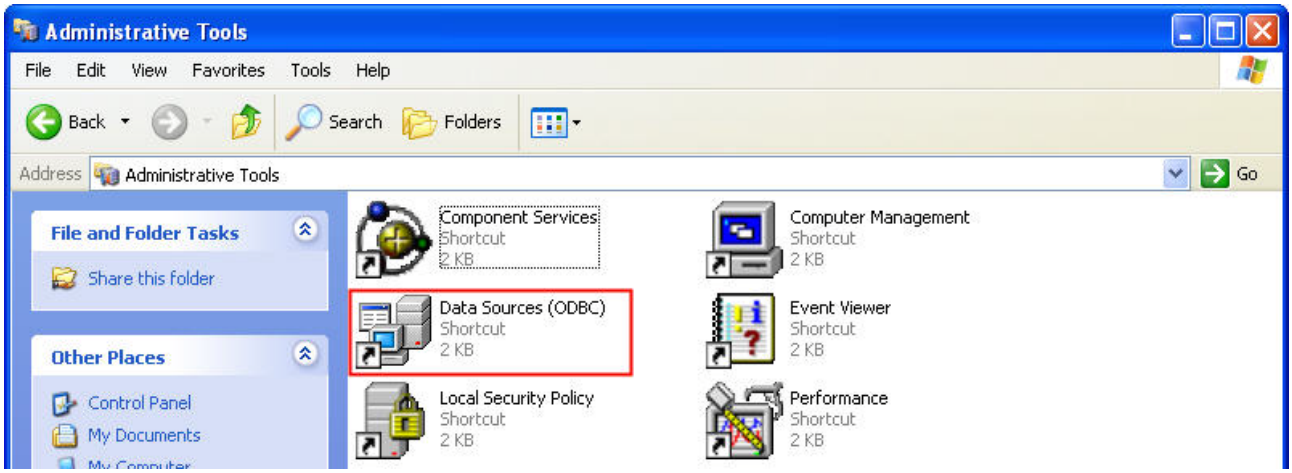


5. ODBC Setup

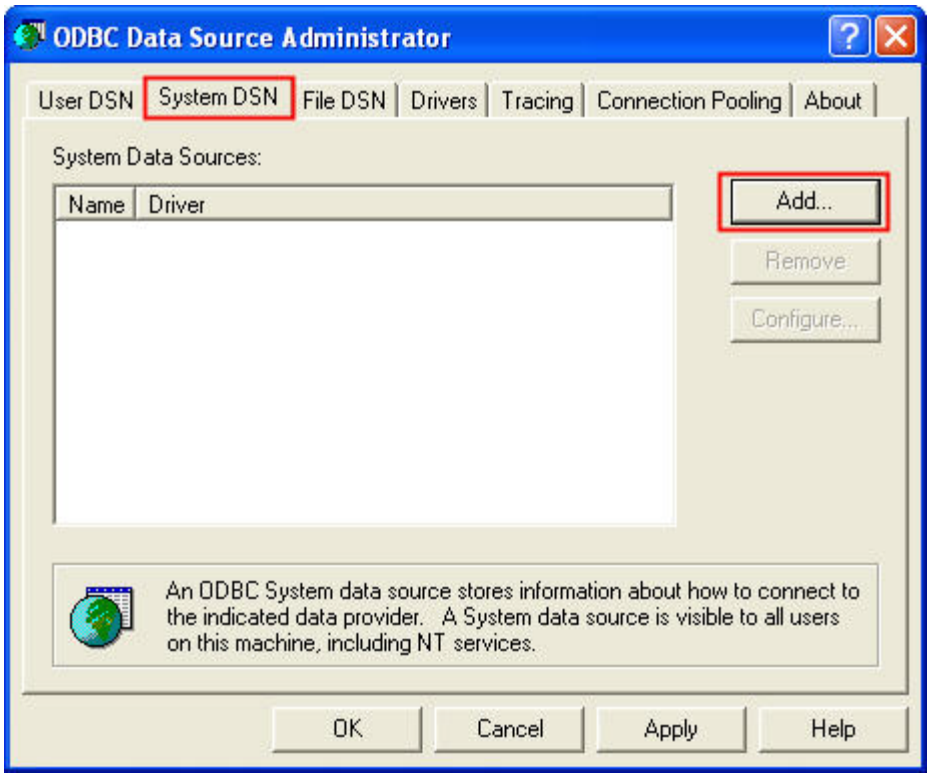
In the **Control Panel**, double-click **Administrative Tools**.



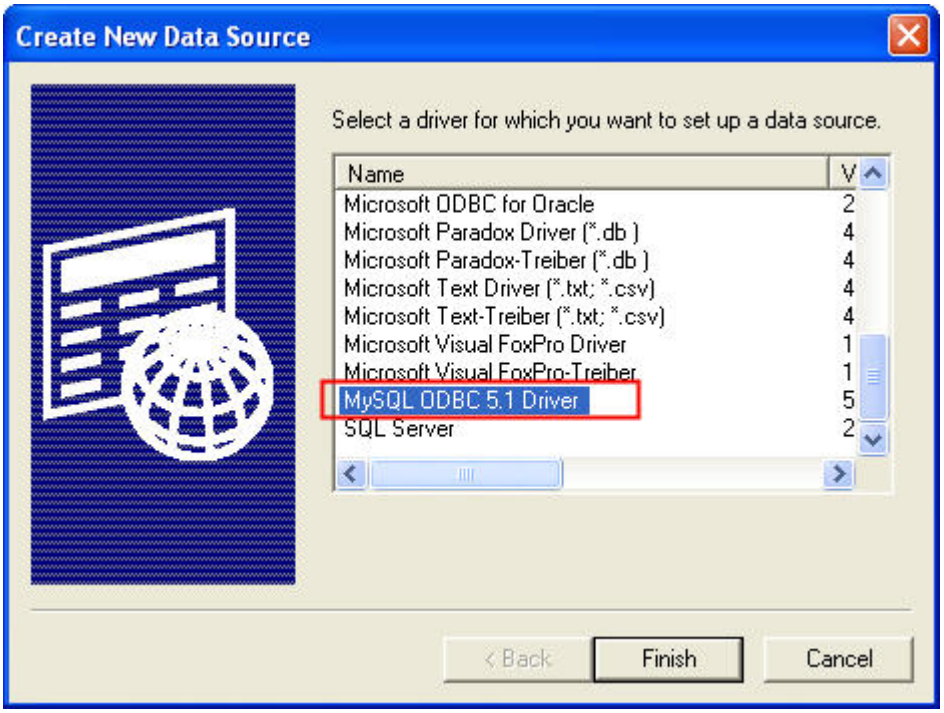
In the **Administrative Tools**, double-click **Data Sources (ODBC)**.



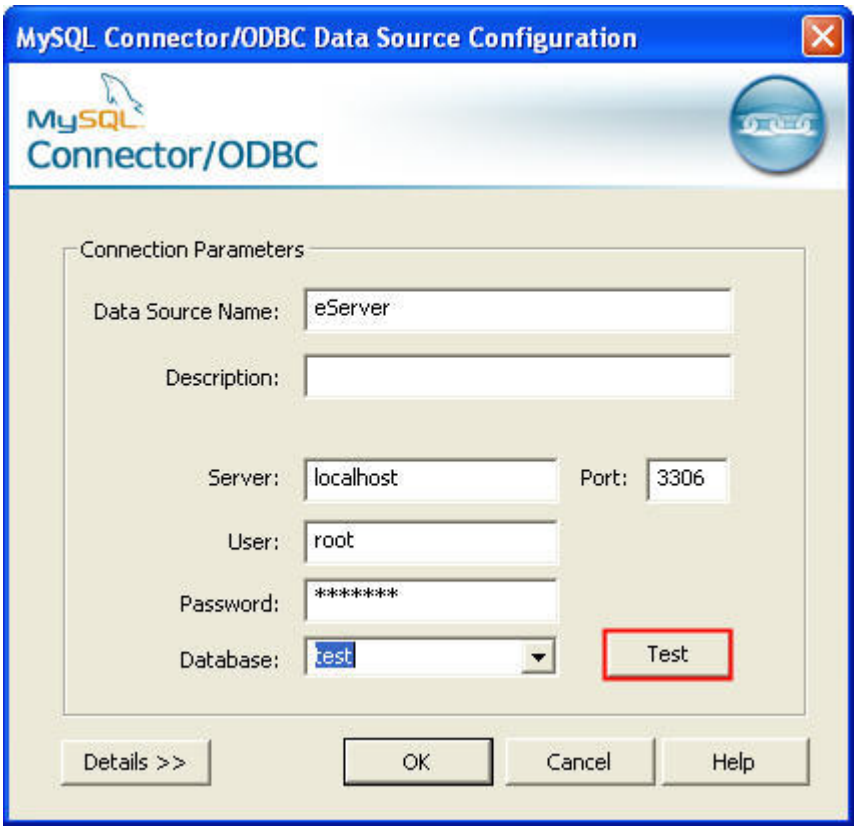
In the **ODBC Data Source Administrator** dialog box, select **System DSN** tab and click on **Add** button to add system data source.



Select **MySQL ODBC 5.1 Driver** and then click on **Finish** button.



Now specify the Connection Parameters as mentioned in the below dialog.



Connection Parameters:

Data Source Name: Enter ODBC data source name **eServer** or enter the name of the data source you want to access.

Description: Enter some text to identify the connection.

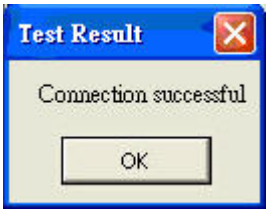
Server: Enter the default **localhost** or the name of MySQL server host that the users want to access.

User: Enter user name **root** to use for this connection.

Password: Enter the corresponding password for this connection.

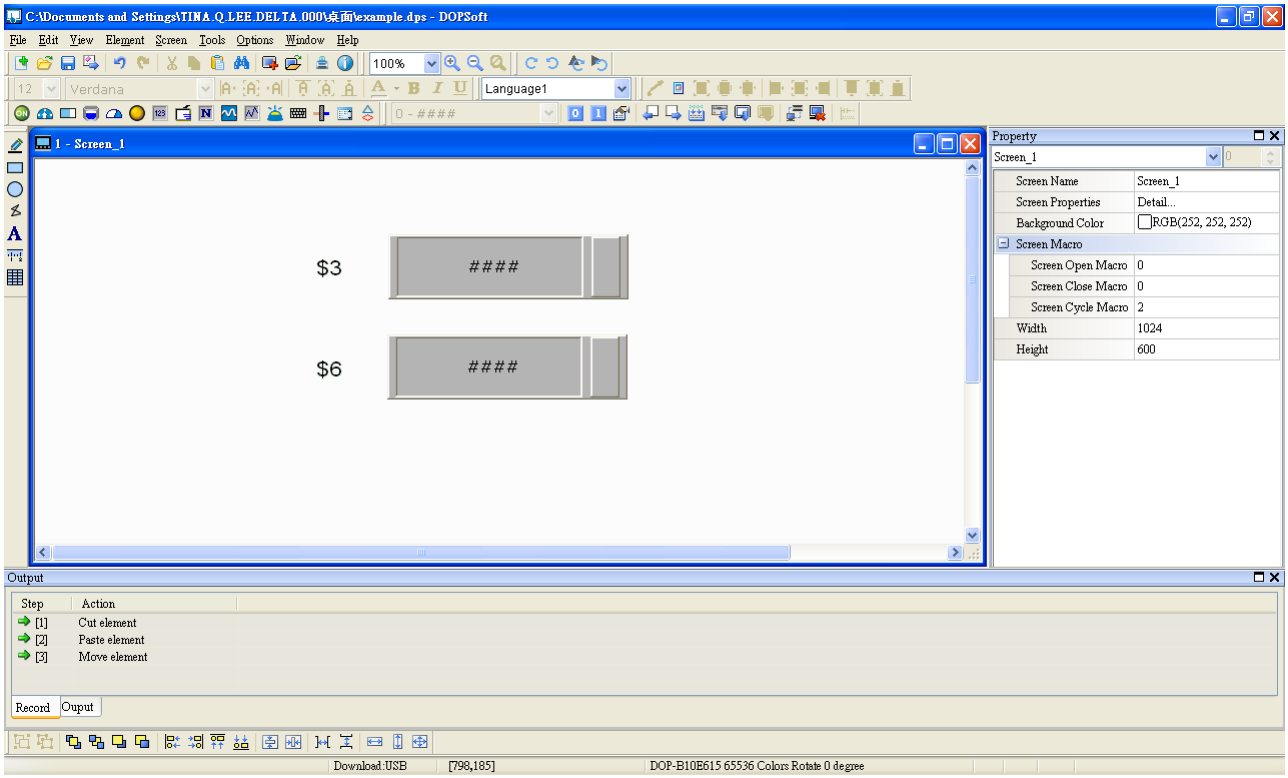
Database: The list of databases that the user has permissions to access will be shown automatically.

Click on **Test** button to verify the connection. If the test succeeds, the figure shown below will appear on the screen to indicate that MySQL connection is now available to use. At this time, click on **OK** button to complete the settings. If the test does not succeed, please review the settings.

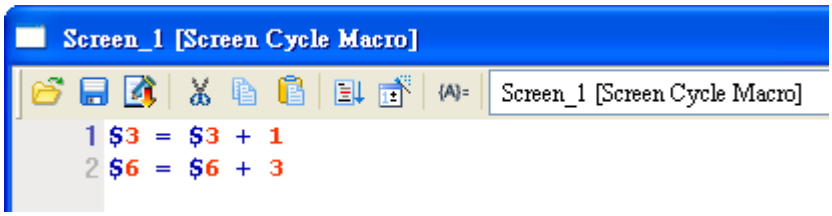


9.1.2 Create HMI Project File

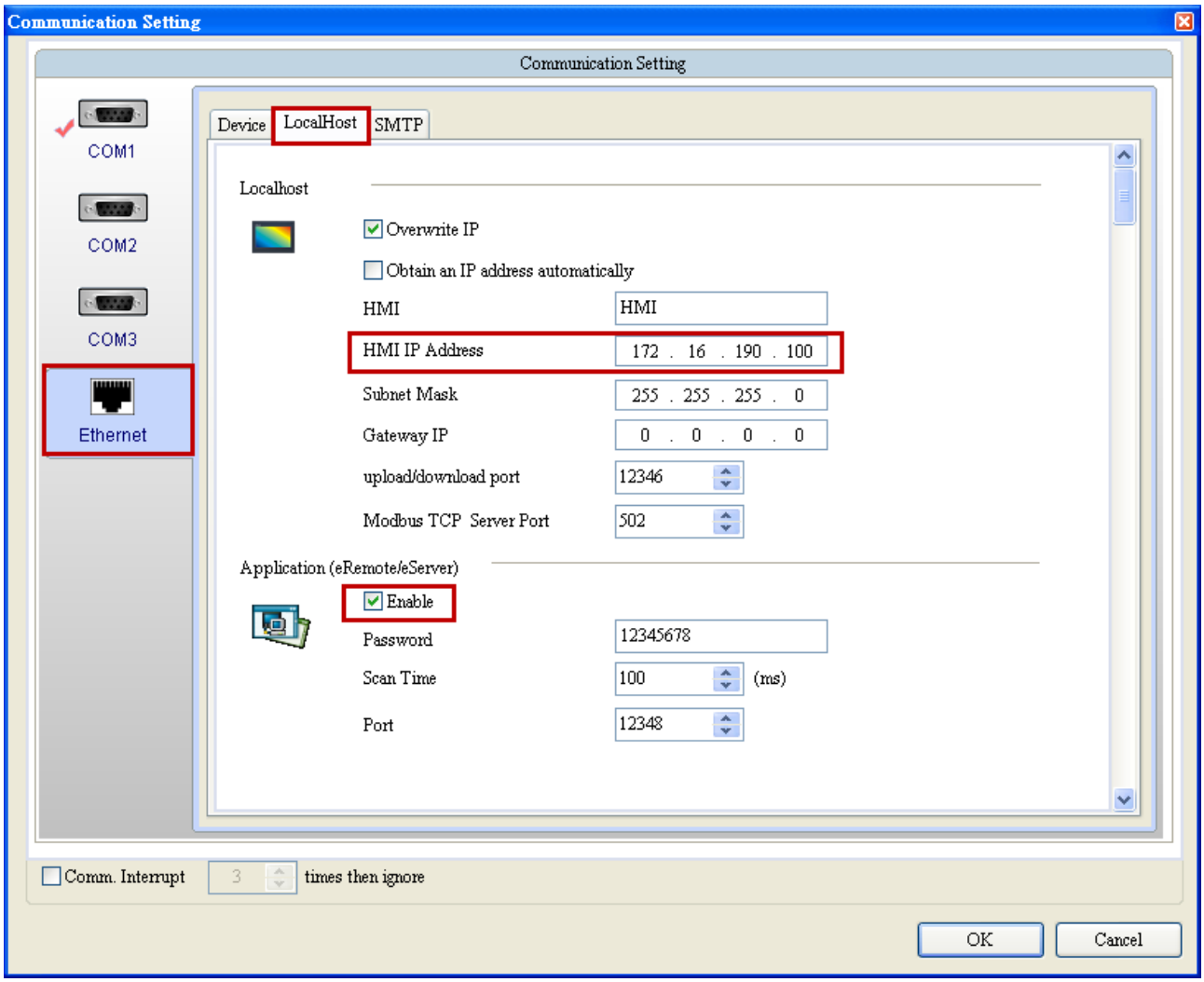
Start DOPSoft software program and click **File > New** or click **New** icon to create a new project. Then, click **Element > Input > Numeric Entry** to create two numeric entry elements ($3 and $6) on the screen. In this case, 10 inches color B10E615 type DOP series HMI is used.



Use Screen Cycle Macro and enter the following commands in macro command window.



Click **Options > Communication Setting > Ethernet > LocalHost,** set HMI IP Address and check the Application(eRemote / eServer) function **Enable.** Then, press **OK** button to finish the settings.

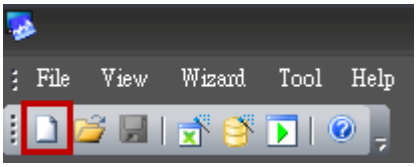

Communication Setting
Communication Setting
COM1
COM2
COM3
Ethernet
Device
LocalHost
SMTP
Localhost
Overwrite IP
Obtain an IP address automatically
HMI
HMI
HMI IP Address
172 . 16 . 190 . 100
Subnet Mask
255 . 255 . 255 . 0
Gateway IP
0 . 0 . 0 . 0
upload/download port
12346
Modbus TCP Server Port
502
Application (eRemote/eServer)
Enable
Password
12345678
Scan Time
100
(ms)
Port
12348
Comm. Interrupt
3
times then ignore
OK
Cancel

9.1.3 eServer Setting

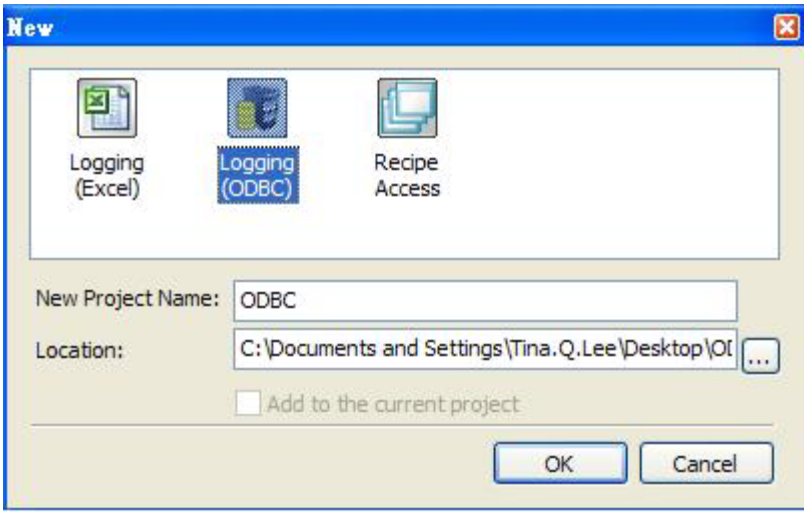
1. After eServer is started, eServer window will open.



3. Click **File > New** or click  icon to create a new project file.



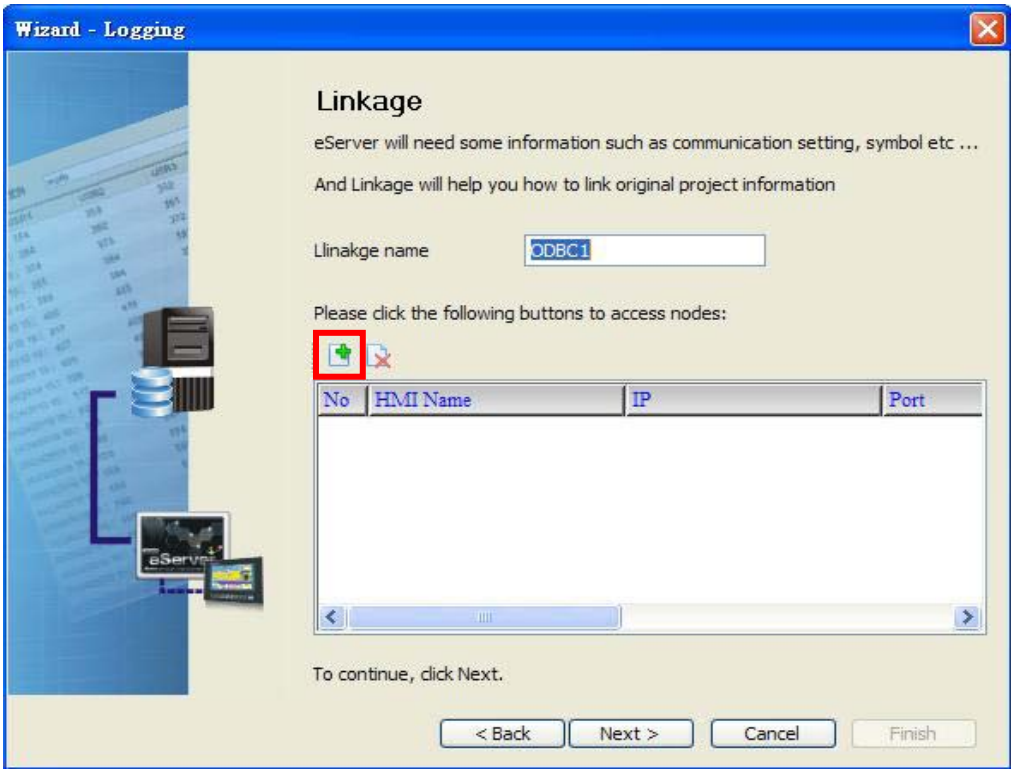
4. Select  icon to enable ODBC Logging Wizard.



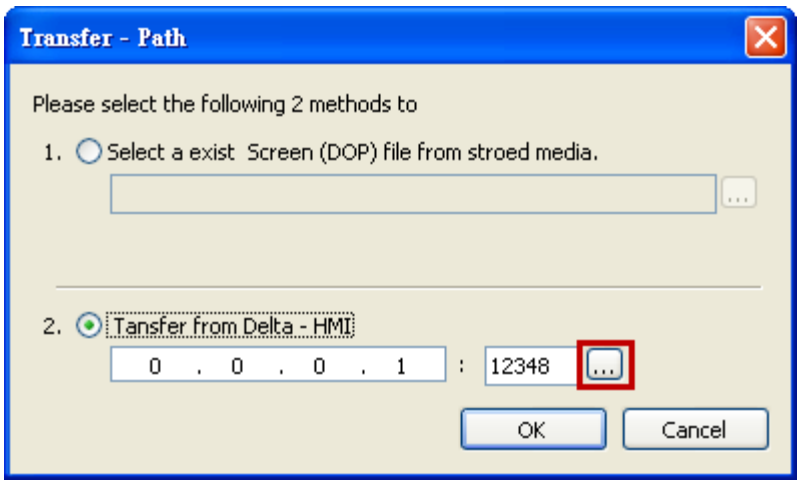


Press **Next** button to go to next step.

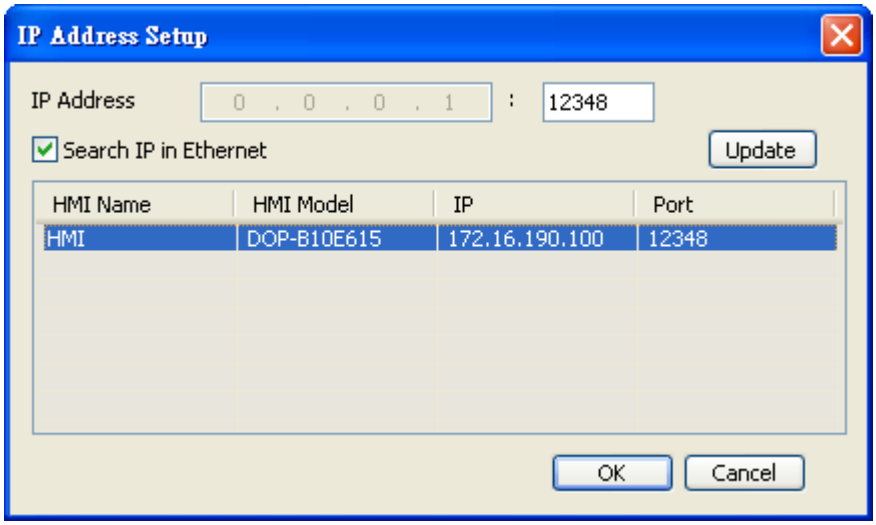
5. Click **New** icon to access nodes (link to HMI).



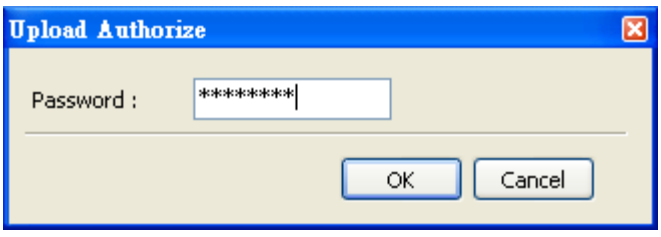
Choose **Transfer from Delta – HMI** option to transfer the HMI screen project file via network communication directly.



After searching HMI IP in Ethernet, select HMI Name is HMI, IP is 172.16.190.100, press **OK**.

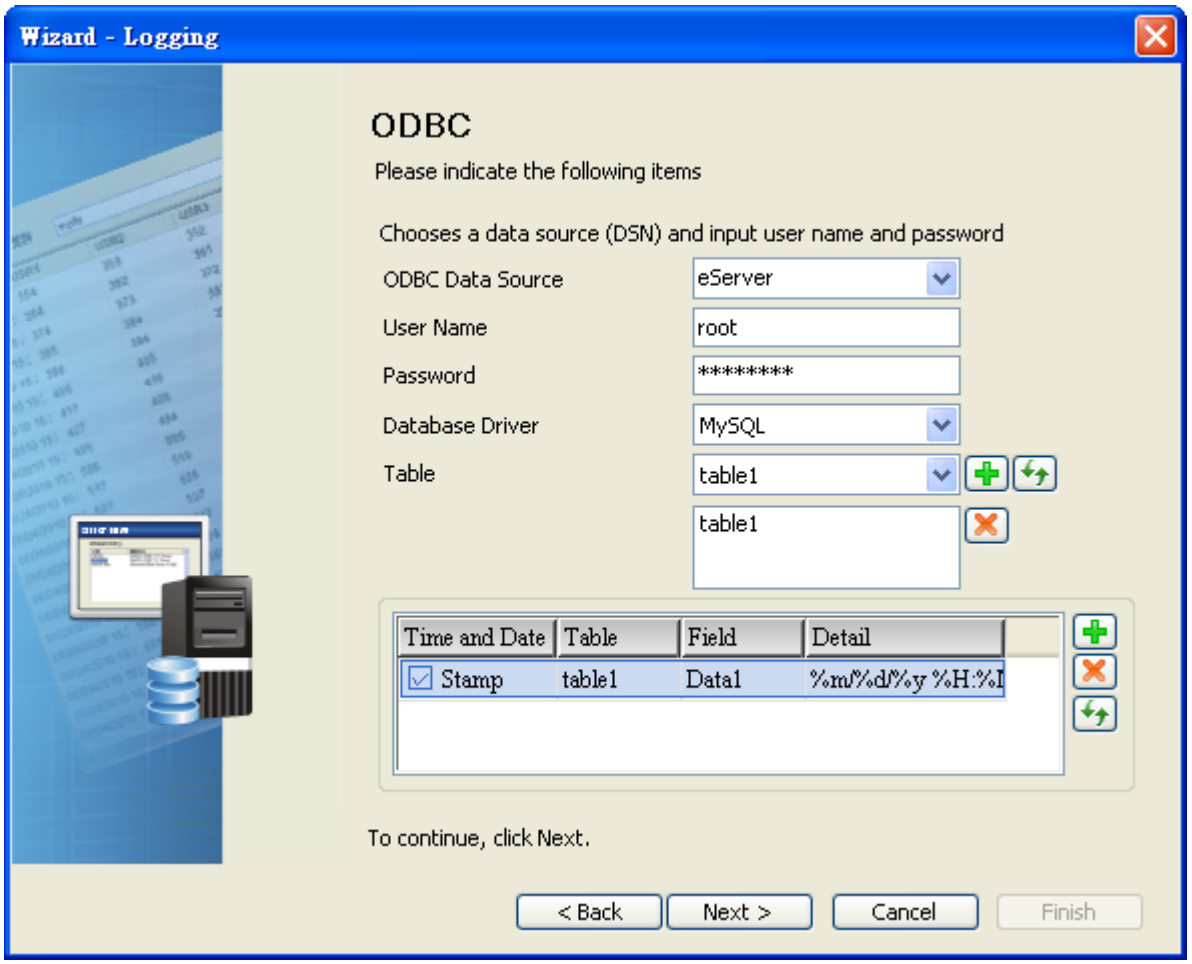


eServer will ask user to input the authorize password to connected with HMI. (The default password is 12345678.)



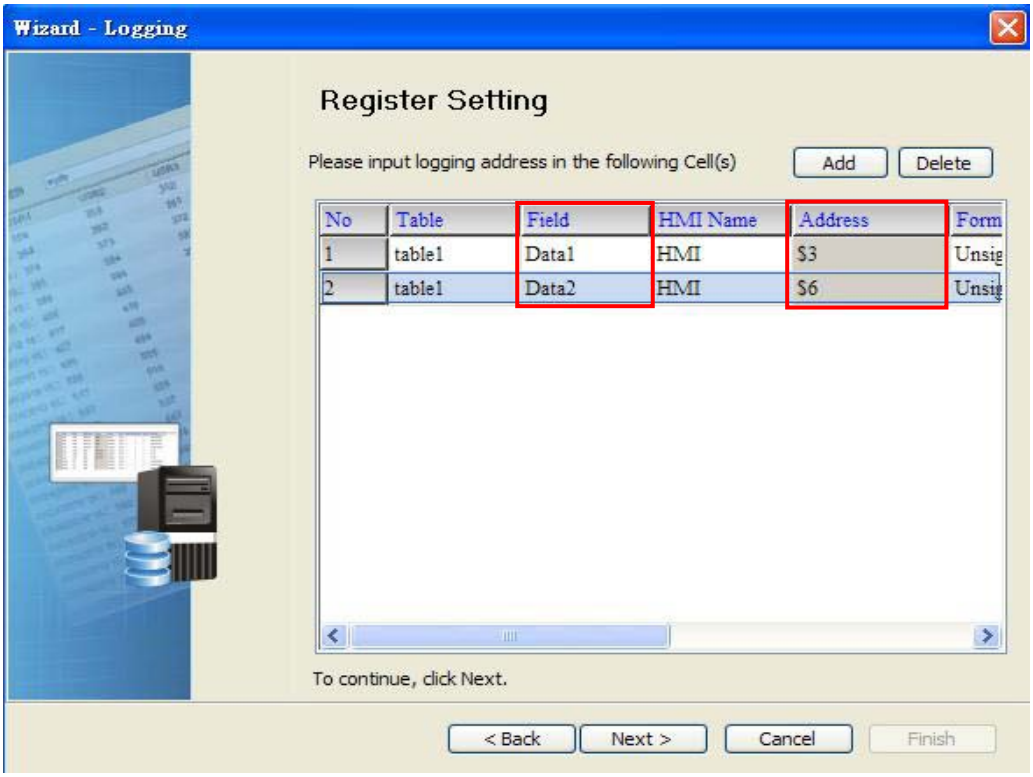
Press **OK** button to go to next step.

6. ODBC Data Source Setting: Create an ODBC Data Source pointing to your database. Please refer to the following settings and press refresh button to select table.

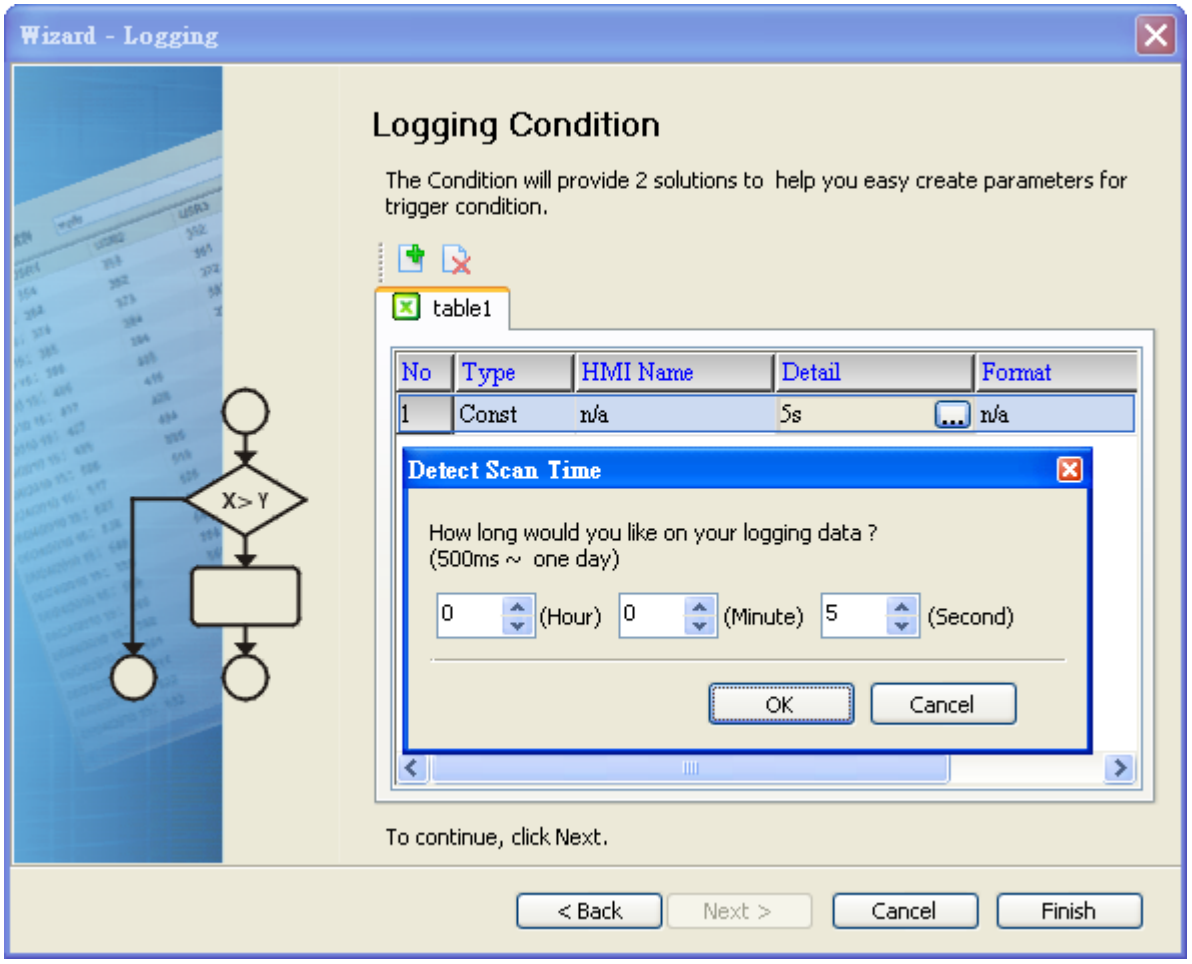


Press **Next** button to go to next step.

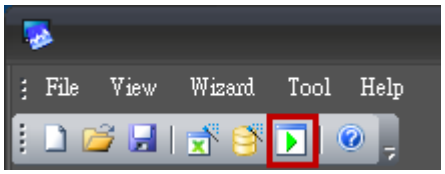
7. Register Setting: Set the register address of the sampling data.



9. Set the sampling conditions to constant **5s**. Press **Next** button to continue.



9. Press  icon. After the password is entered, the system will start sampling operation, i.e. writing data in MySQL Server.

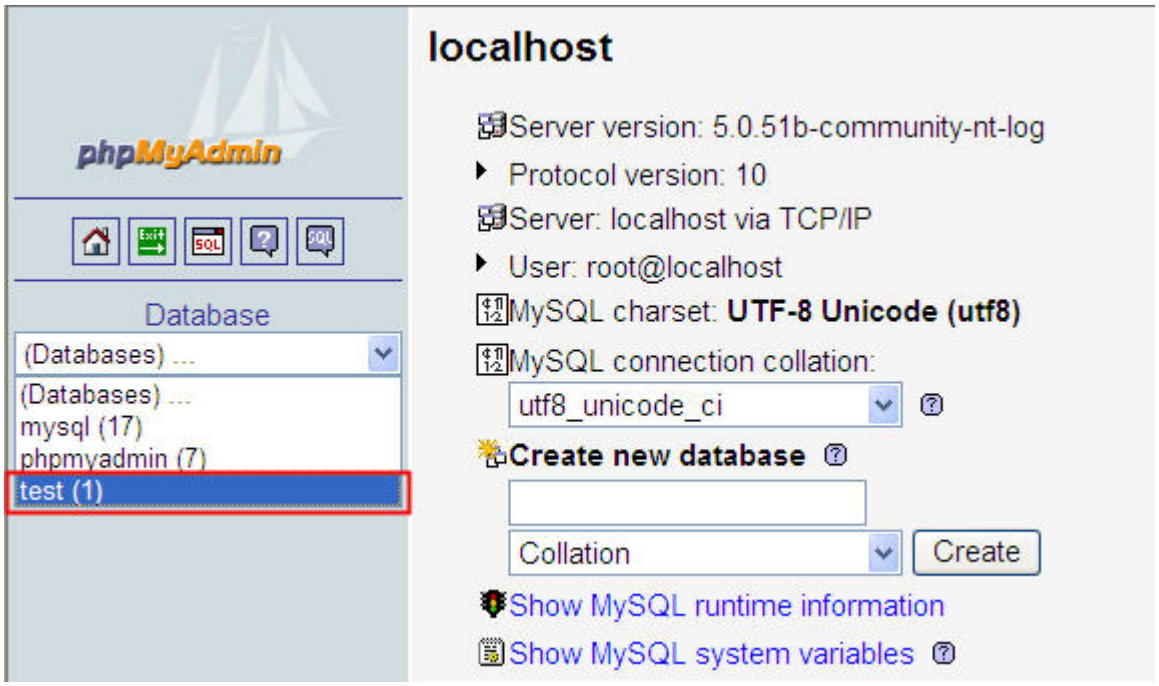




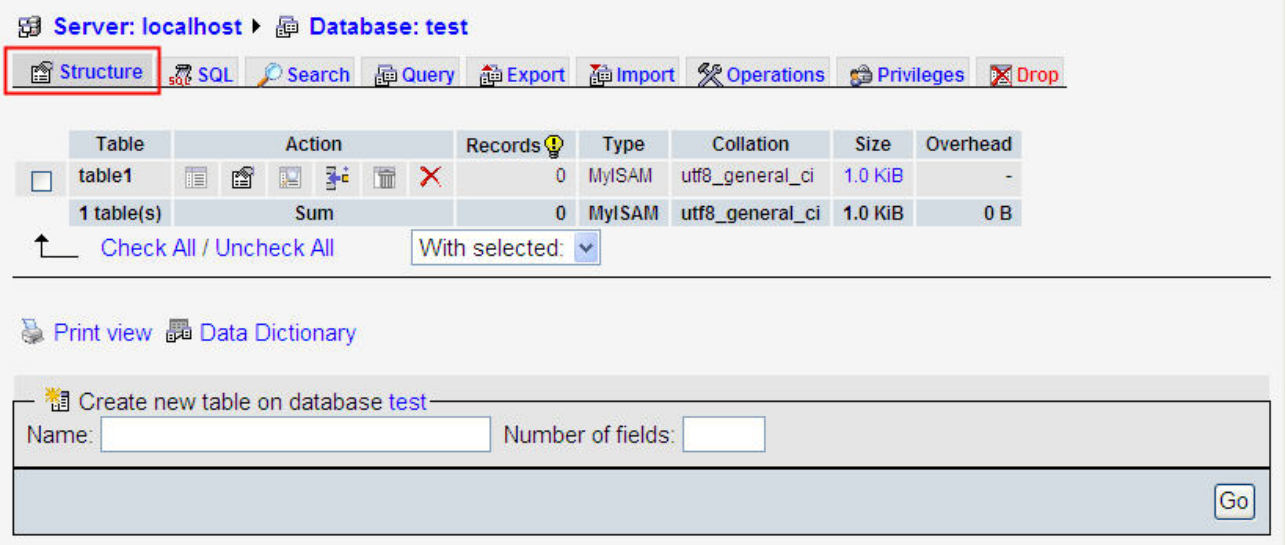
10. If the users want to pause or stop the sampling operation, only right-click eServer  icon at the bottom right of Windows screen and select Pause or Stop option from the pop-up menu, the sampling operation will pause and stop immediately.



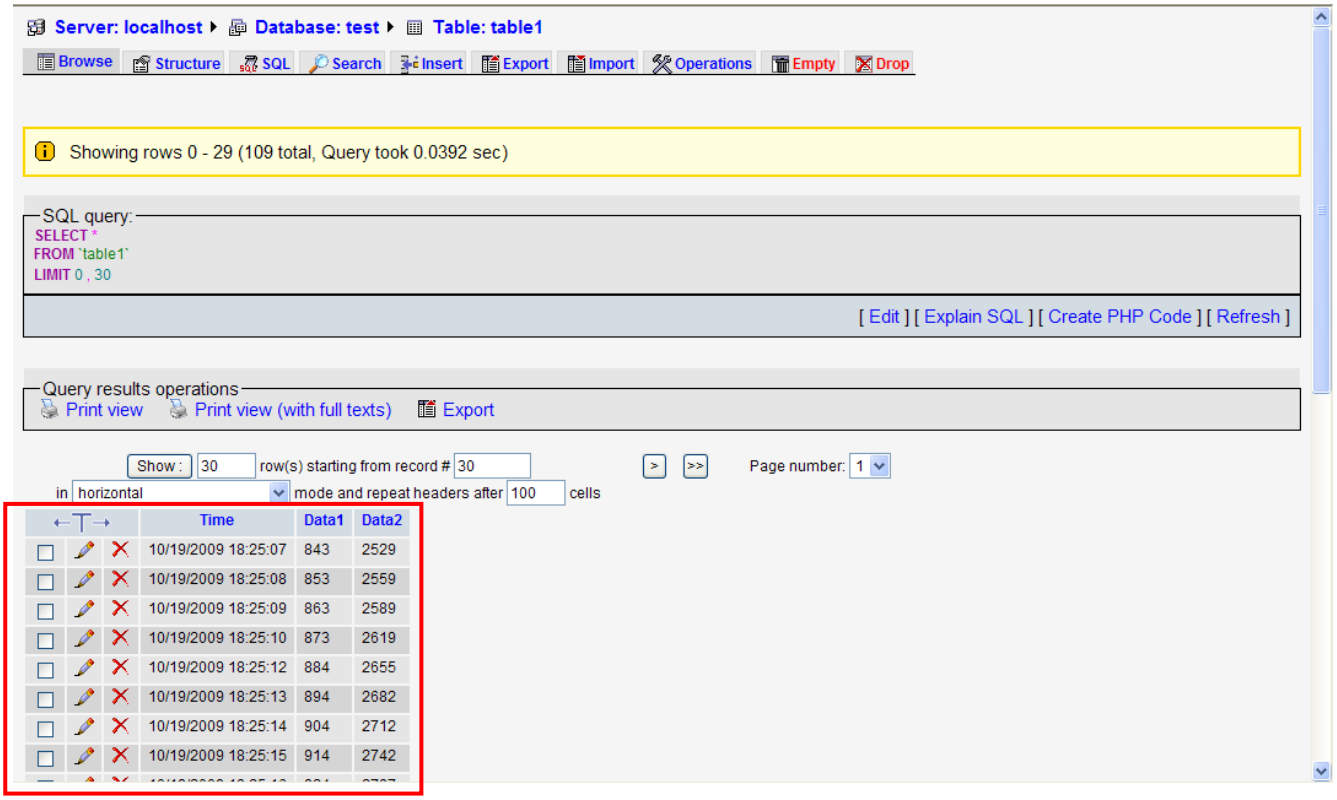
11. Open the browser, type: http://localhost/phpMyAdmin/, and select the test database from the Database drop-down menu.



12. Click on **Structure** link.



13. The recorded data will be shown at the bottom of the window.


Server: localhost ▸ Database: test ▸ Table: table1
Browse Structure SQL Search Insert Export Import Operations Empty Drop
Showing rows 0 - 29 (109 total, Query took 0.0392 sec)
SQL query:
SELECT *
FROM `table1`
LIMIT 0 , 30
[Edit] [Explain SQL] [Create PHP Code] [Refresh]
Query results operations
Print view Print view (with full texts) Export
Show : 30 row(s) starting from record # 30
Page number: 1
in horizontal mode and repeat headers after 100 cells
Time Data1 Data2
10/19/2009 18:25:07 843 2529
10/19/2009 18:25:08 853 2559
10/19/2009 18:25:09 863 2589
10/19/2009 18:25:10 873 2619
10/19/2009 18:25:12 884 2655
10/19/2009 18:25:13 894 2682
10/19/2009 18:25:14 904 2712
10/19/2009 18:25:15 914 2742

Chapter 10 Writing data in SQL Server 2005

Before giving the example, please setup the upload/download mode for DOPSoft. The default is【USB】. If desire to change the mode to【Ethernet】, please refer to Appendix A.

10.1 Example

Followings introduce the method for sampling HMI register data, $100, $200 and $300 via eServer every 5 seconds. Then, save the data in SQL Server 2005 through ODBC interface. The collected data will be saved in the specified file.

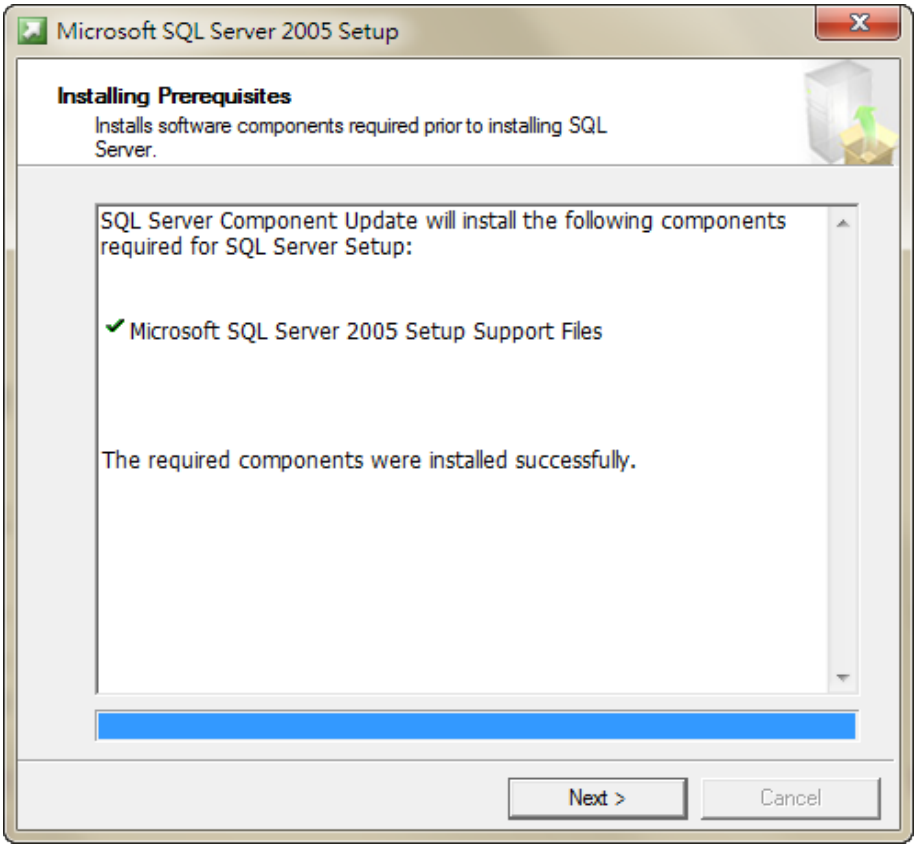
10.1.1 Setup Data Base

- **Installation of SQL Server 2005 Express:**

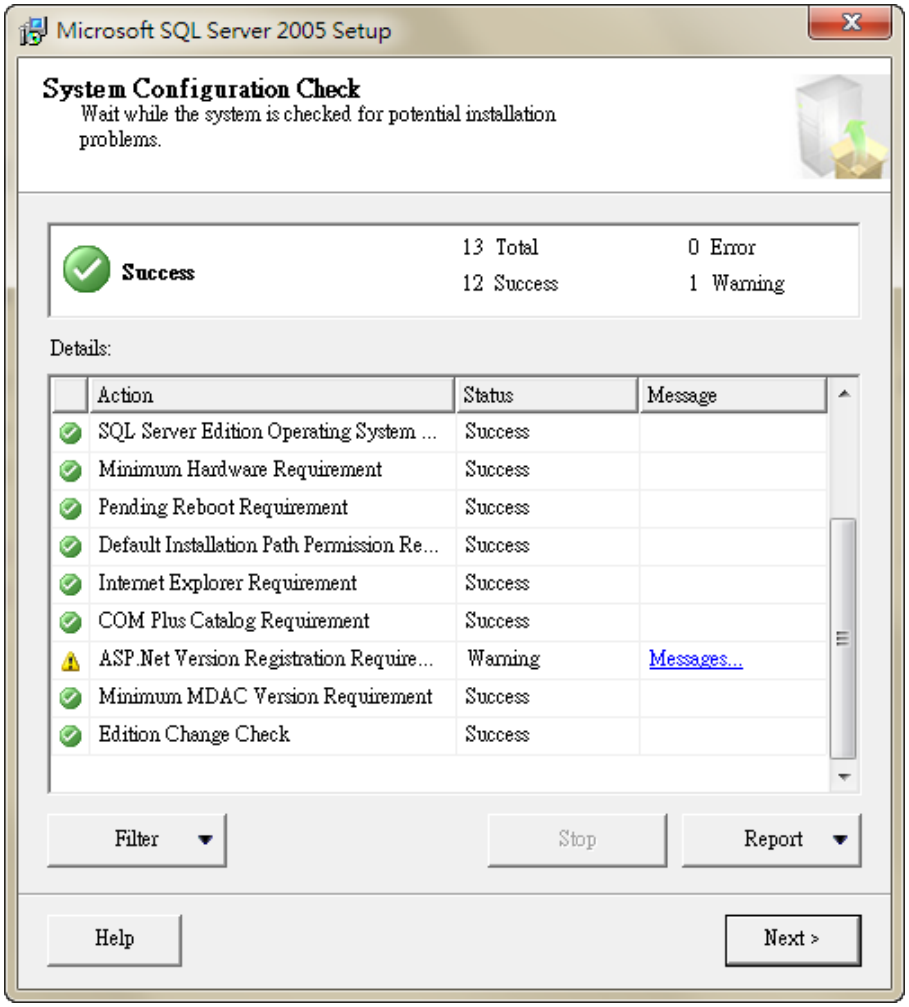
XP supports SQL Server 2005 Express and SQL Server 2008. Please select SQL Server 2005 Express here. Download SQL Server 2005 Express (SQLEXPR_CHT.EXE is 64 bit and SQLEXPR32_CHT.EXE is 32 bit) from:

http://www.microsoft.com/downloads/details.aspx?familyid=3181842A-4090-4431-ACDD-9A1C832E65A6&displaylang=zh-tw

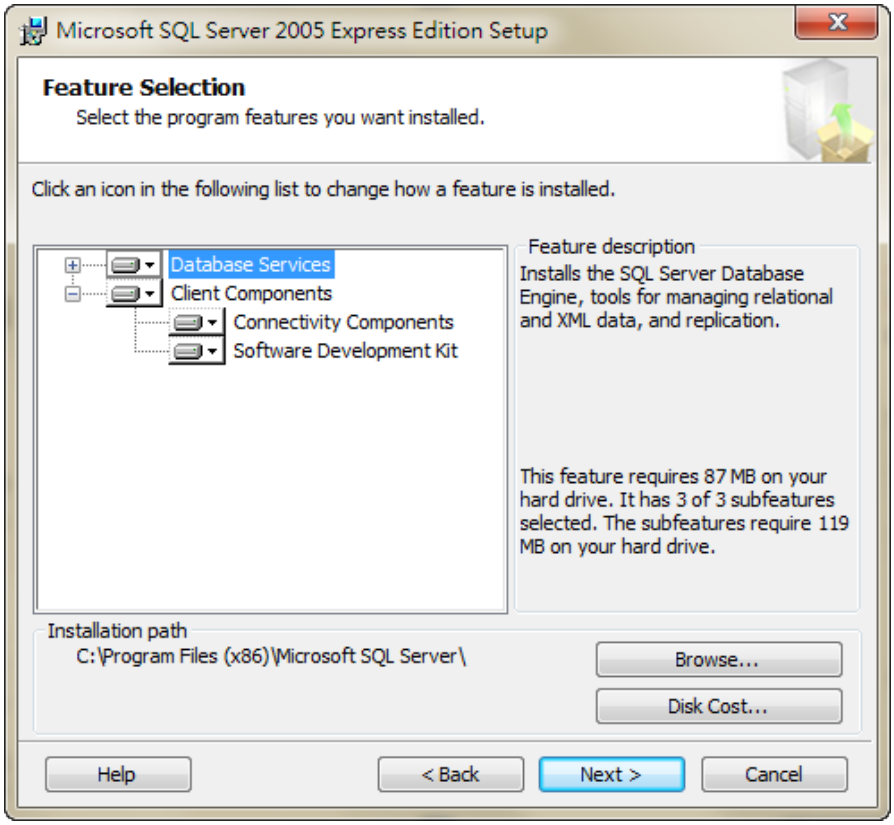
Steps of SQL Server installation:



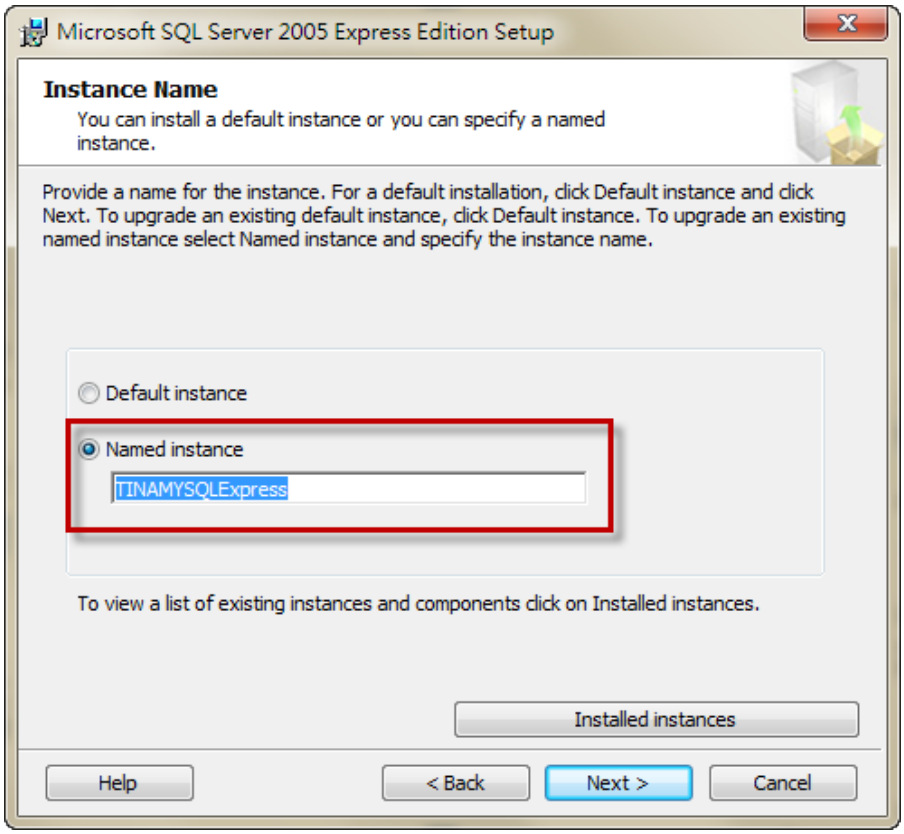
SQL Server 2005 Express Configuration check. Click **Next**.



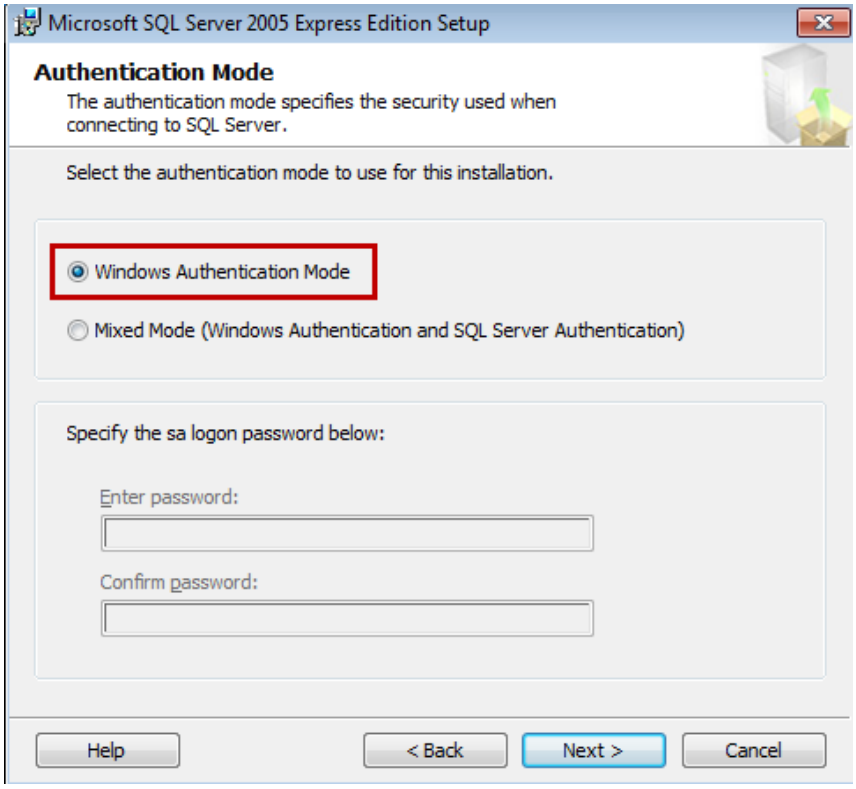
Select the installation element. It is suggested to check all and then click **Next**.



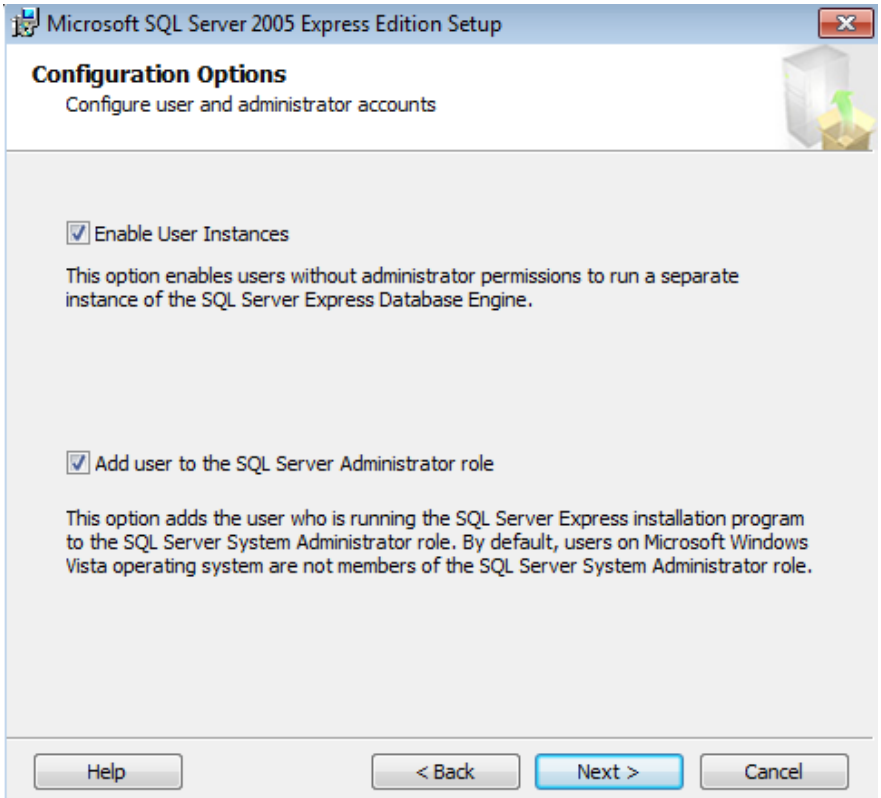
Enter a name as the one used in SQL Server. Then, click **Next**.



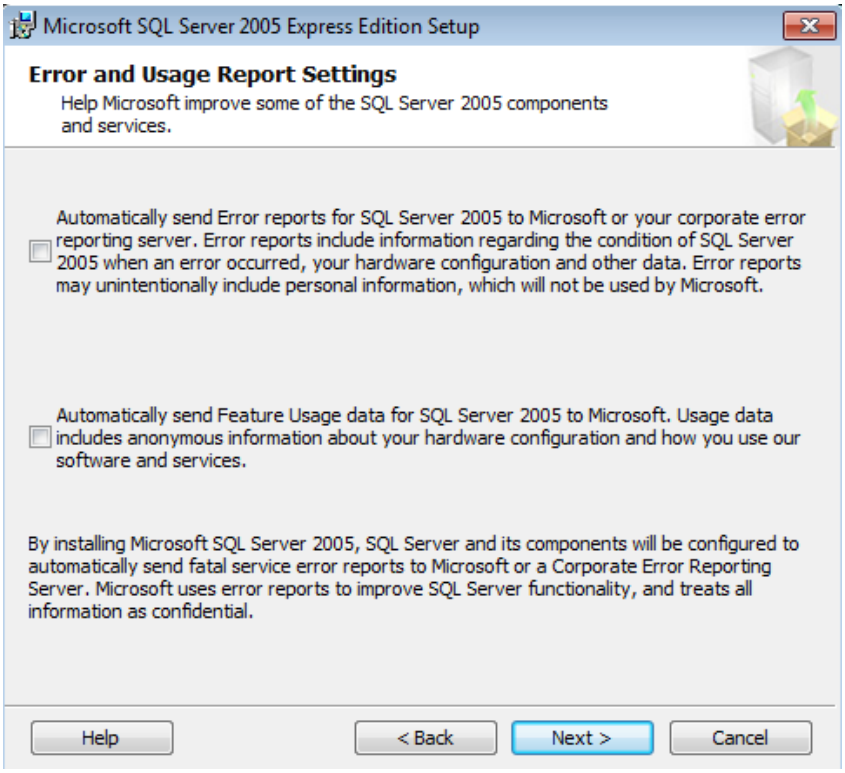
SQL Server Authentication Mode. Select Windows Authentication Mode and click **Next**.



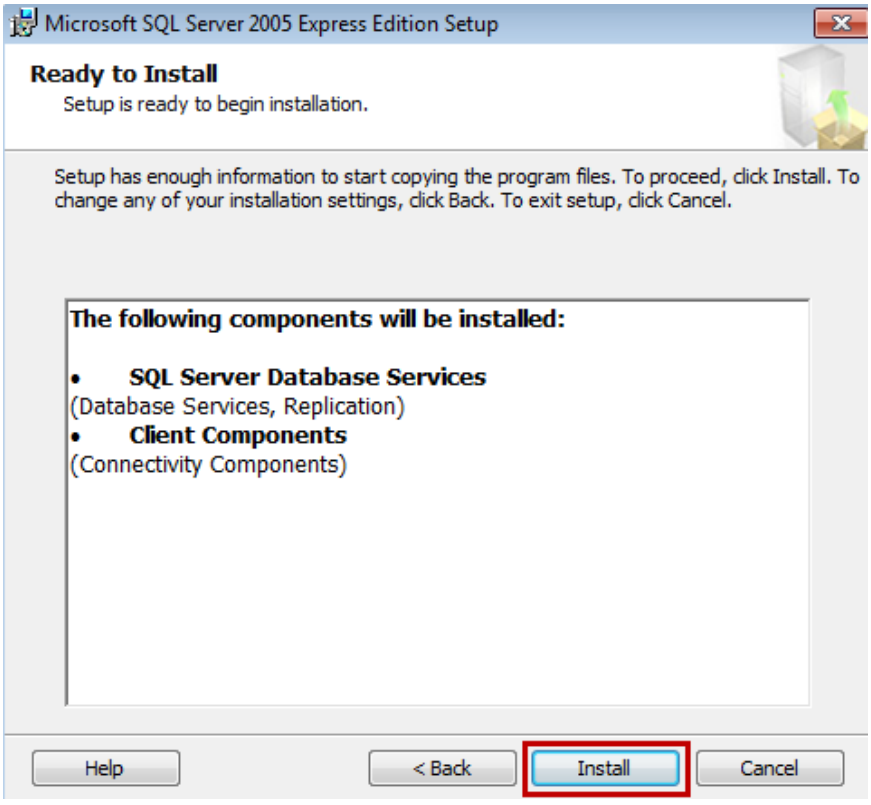
Setup the accounts. Check both and click **Next**.



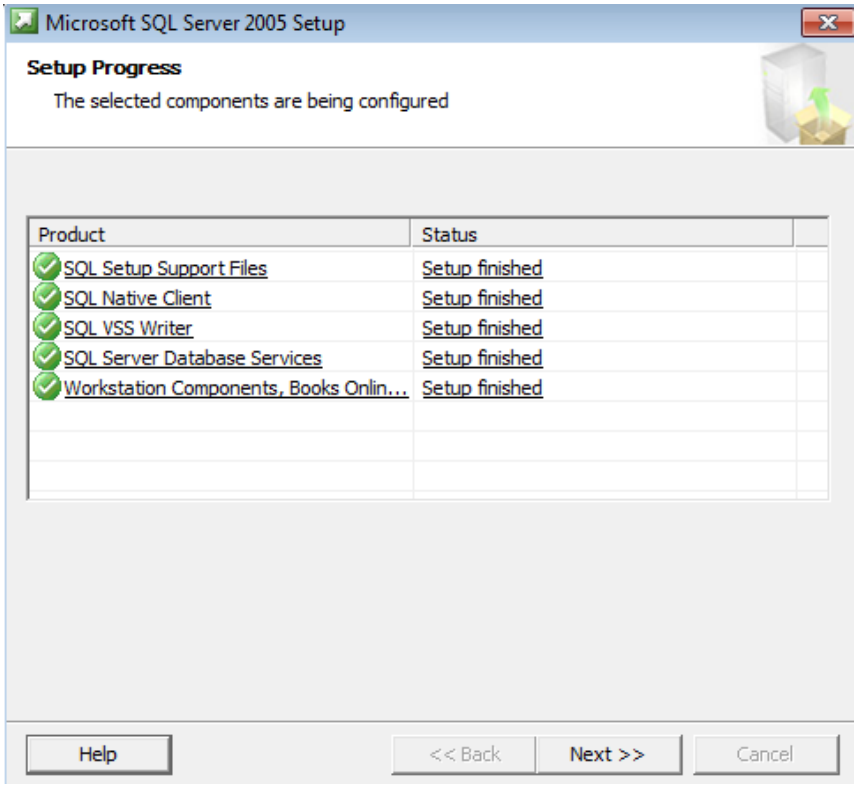
Error and Usage Report Settings. Setup **Do not send error report** here. Then, click **Next**.



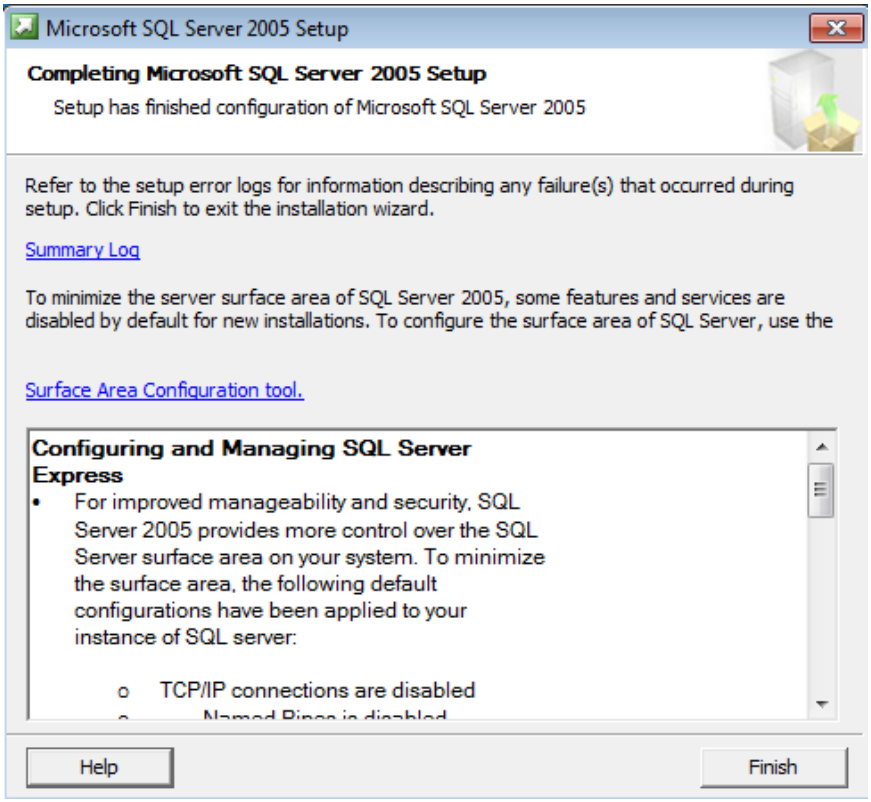
The setting is completed. Click **Install** for installation.



Display setup progress. After all setting is finished, click **Next**.



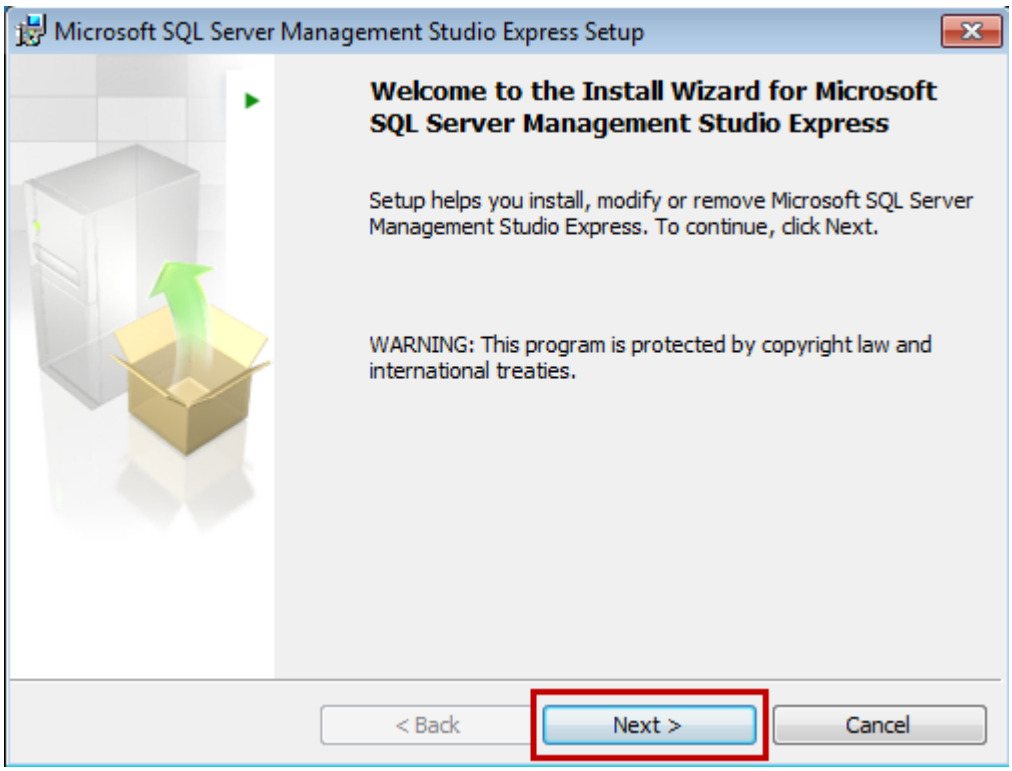
Complete SQL Server setup. Click **Finish**.



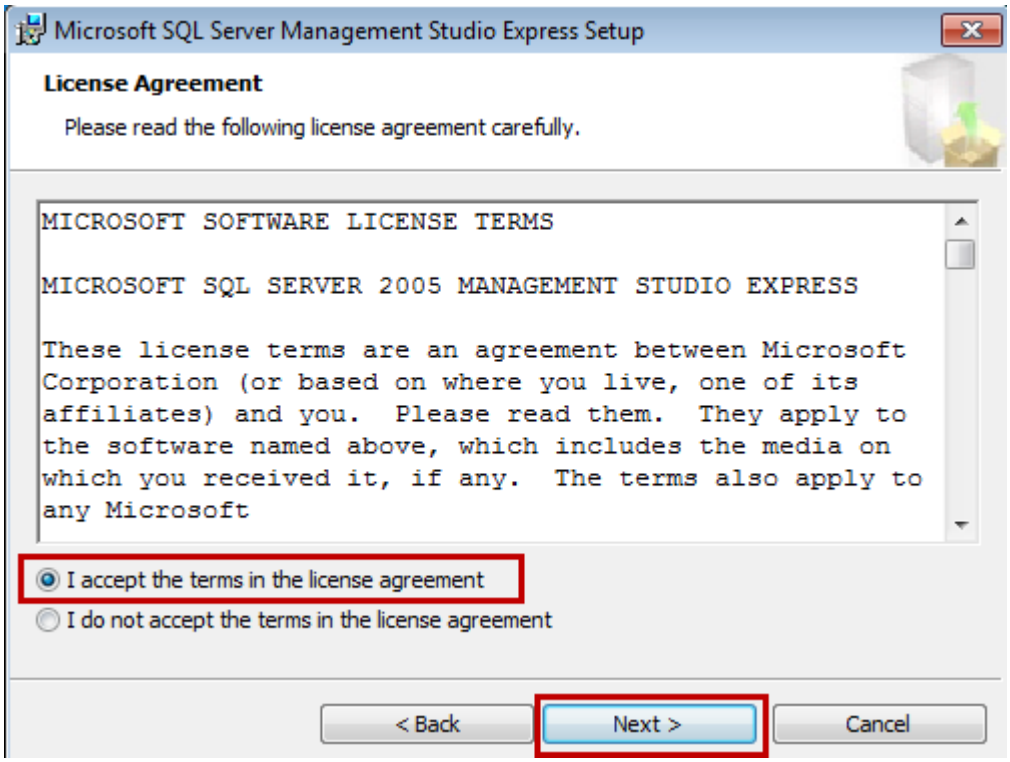
➢ Installation of SQL Server Management Studio Express:

Download Microsoft SQL Server Management Studio Express from:
http://www.microsoft.com/zh-tw/download/details.aspx?id=8961

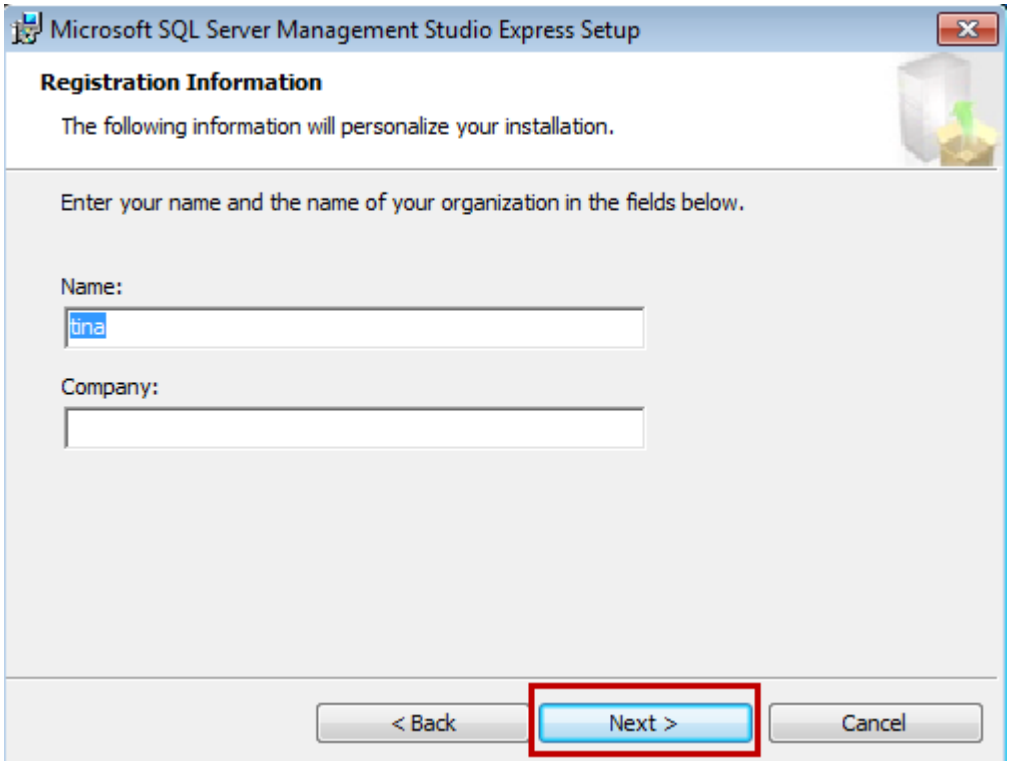
After the download is completed, please execute SQLServer2005_SSMSEE.msi. The following installation window will pop up. Click **Next**.



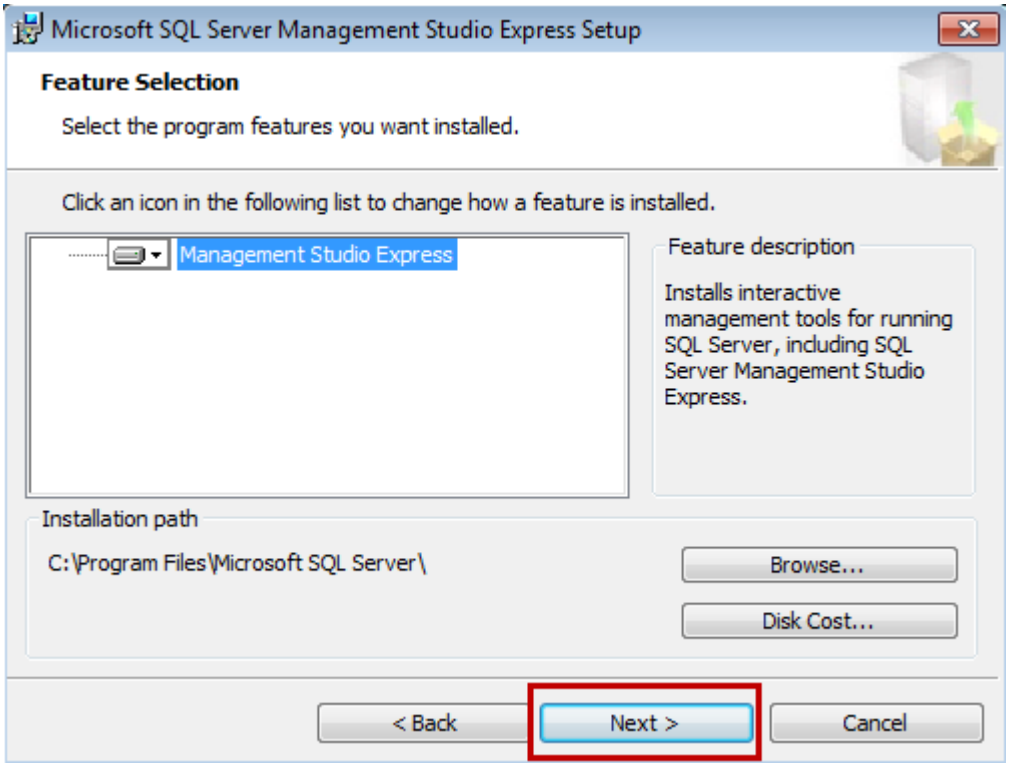
Select【I accept the terms in the license agreement】, then click **Next**.



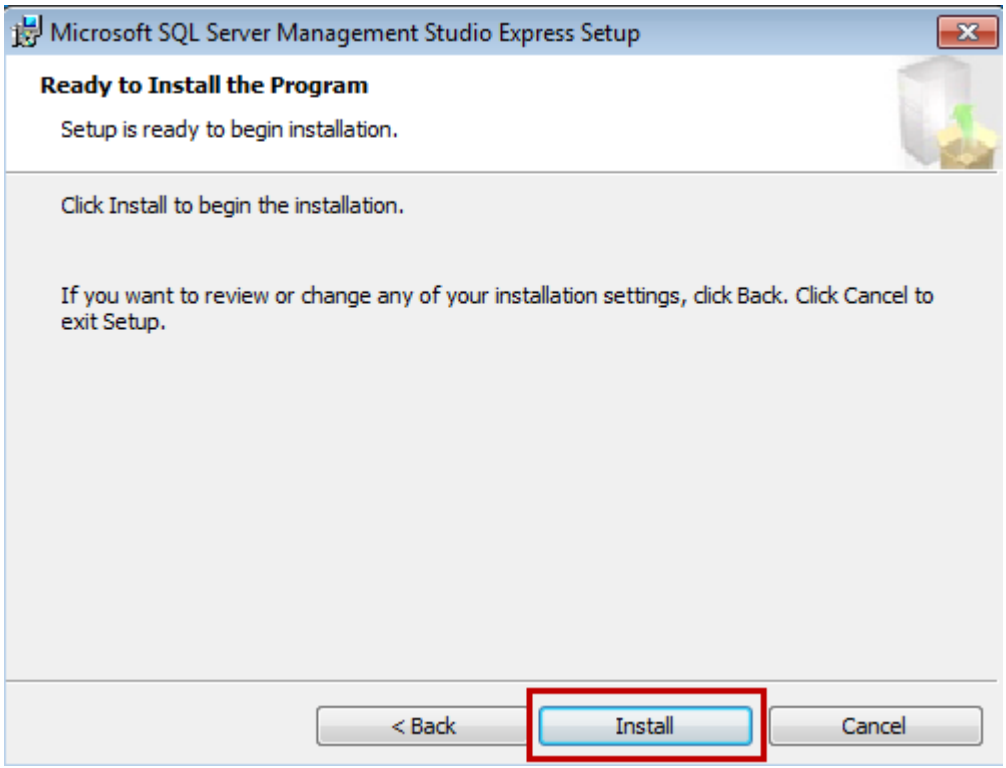
Please enter your name and the name of your organization. (Any name will do)



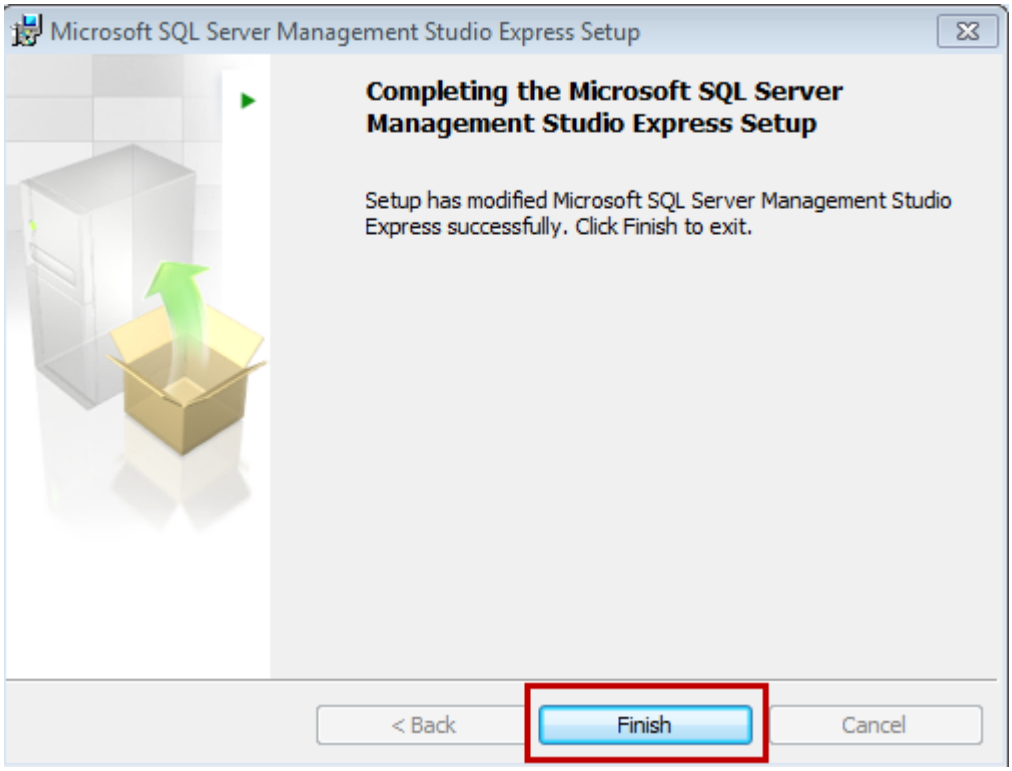
Use default setting, click **Next** directly.



Please click **Install**.

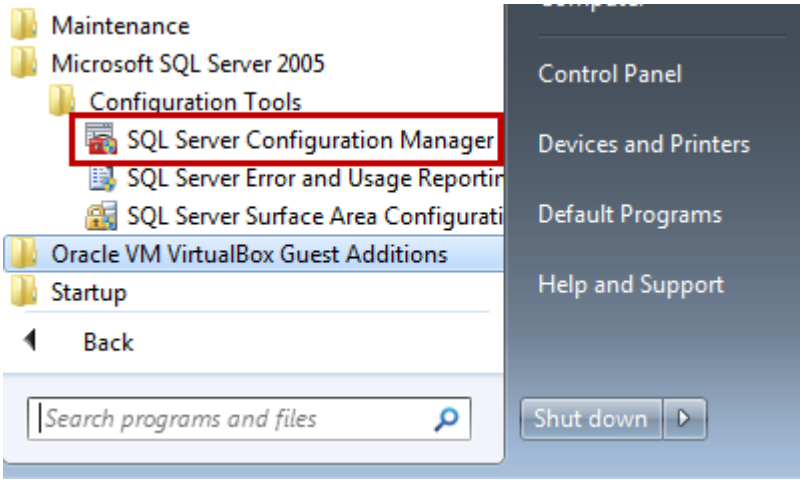


The installation might take 1 ~ 2 minutes. Then, the following window will pop up. Please click **Finish** to exit.

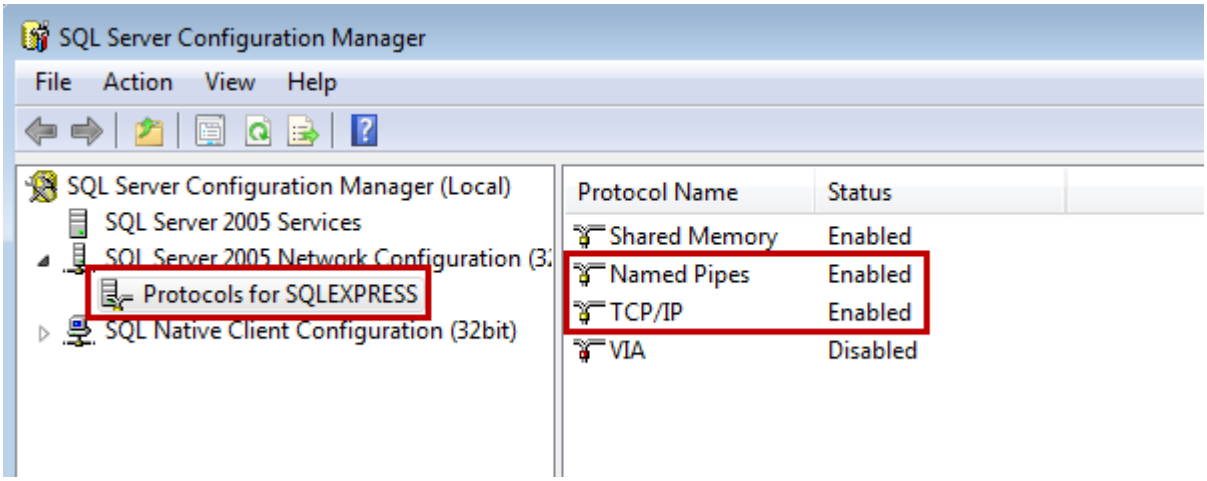


➢ Configuration setting of SQL Server communication:

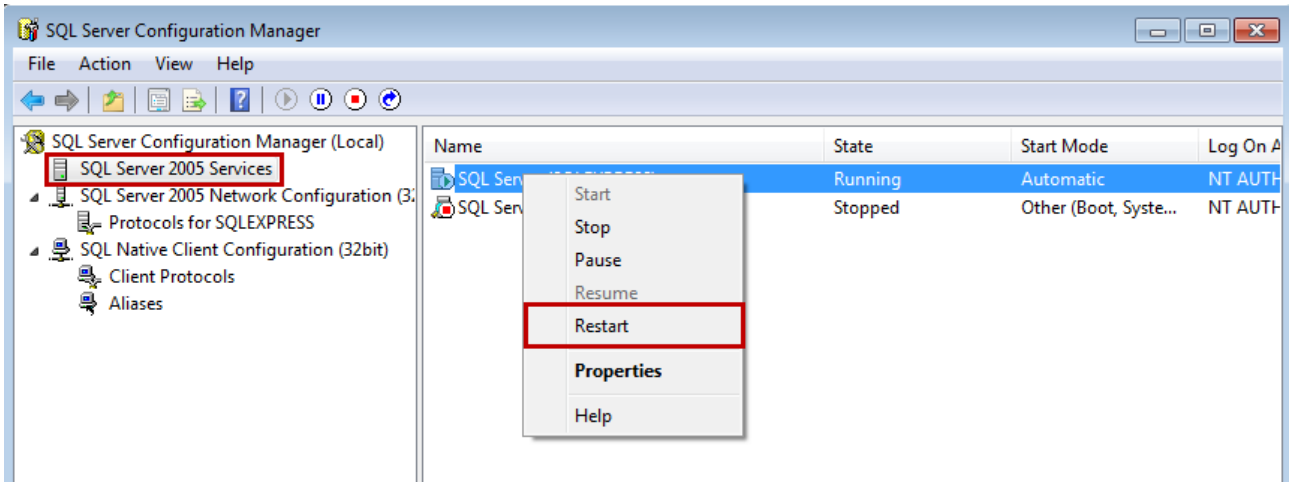
Enable『SQL Server Configuration Manager』to setup SQL Server communication configuration.



Please enable server, Named Pipes and TCP/IP.



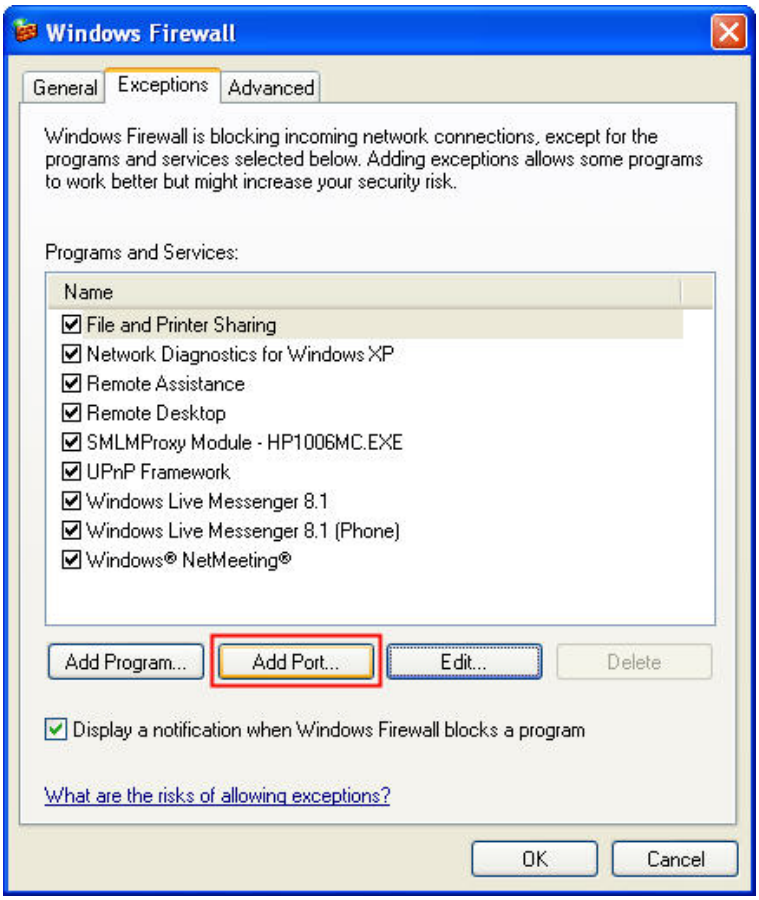
Please restart the server.



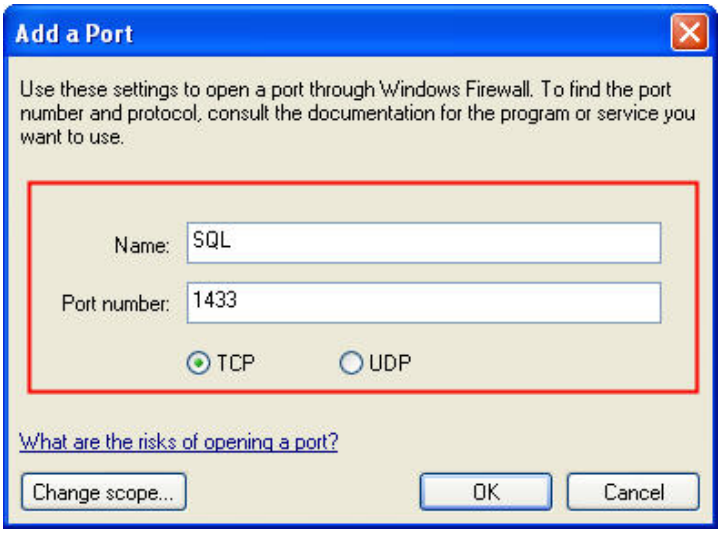
➢ Firewall setup:

☞ XP setting

Enter「Control Panel」→「System and Security」→「Windows Firewall」→「Exceptions」.



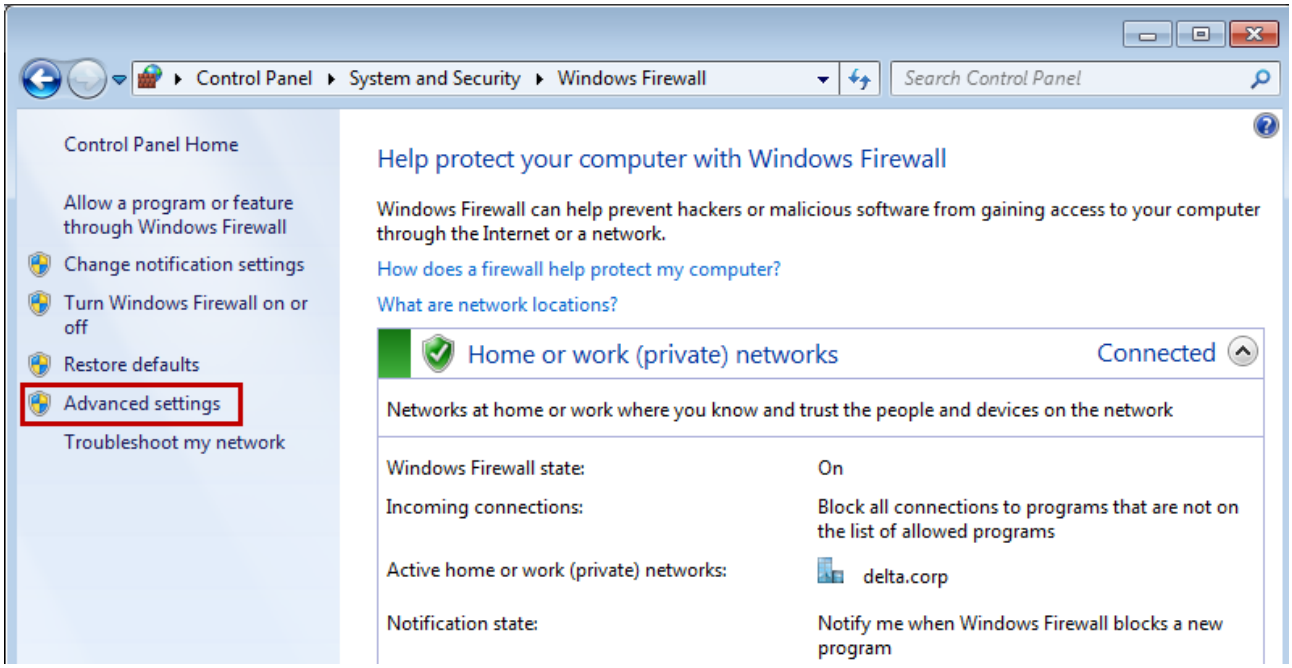
Select【Add a Port】. Its parameter setting is shown as below.



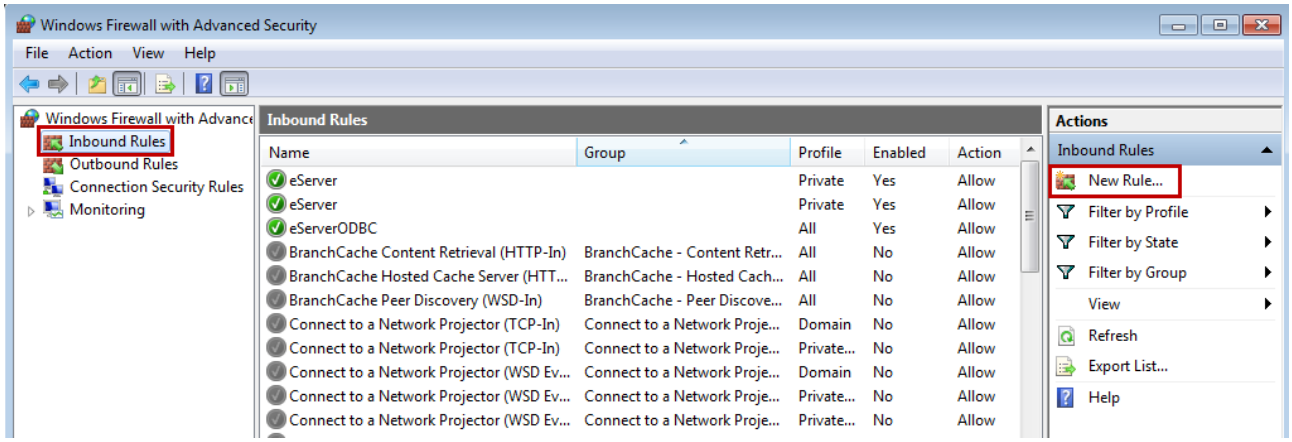
After the setting is completed, please restart the computer.

☞ Win 7 Setting

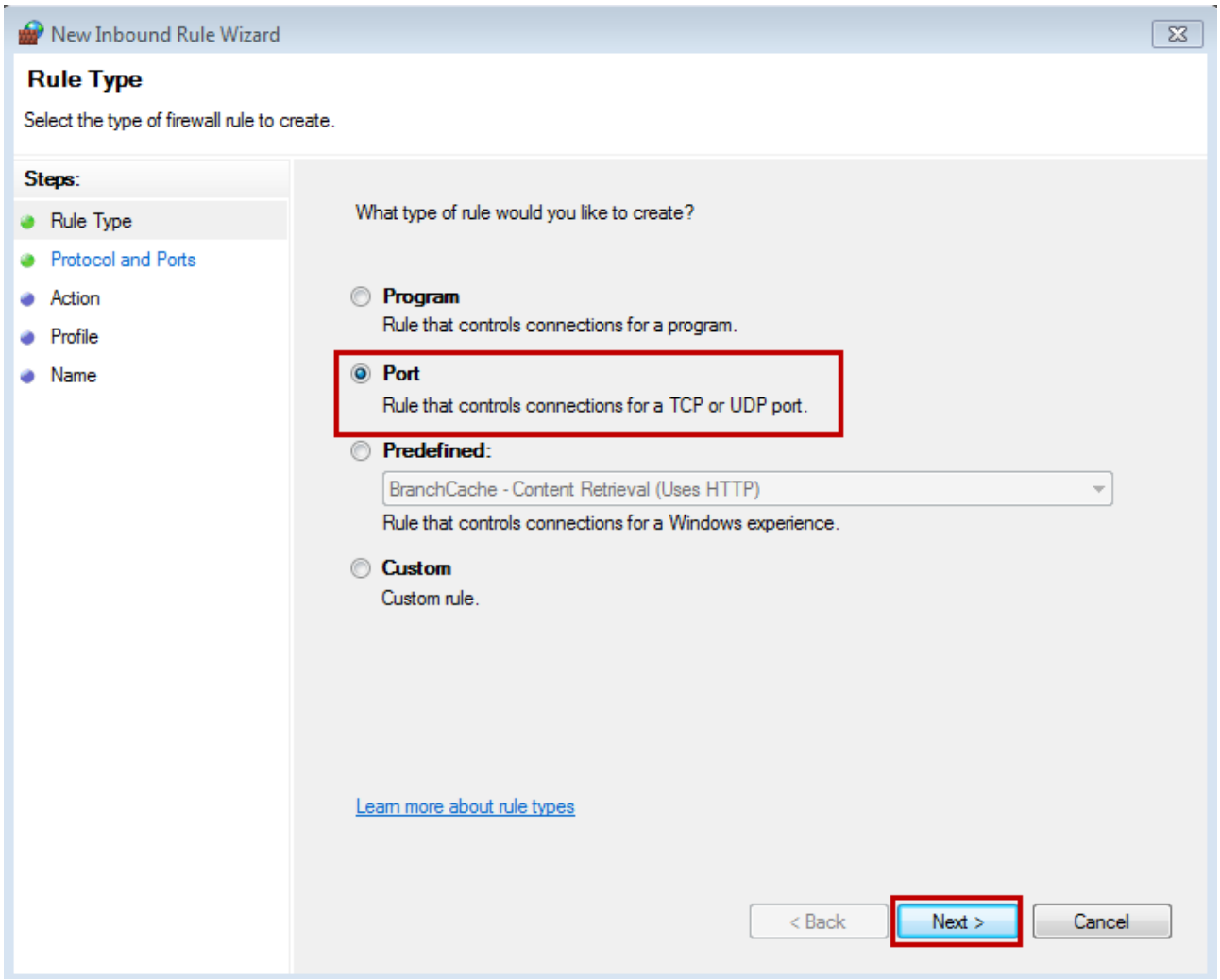
Enter「Control Panel」→「System and security 」→「Windows Firewall 」→「Exceptions」.



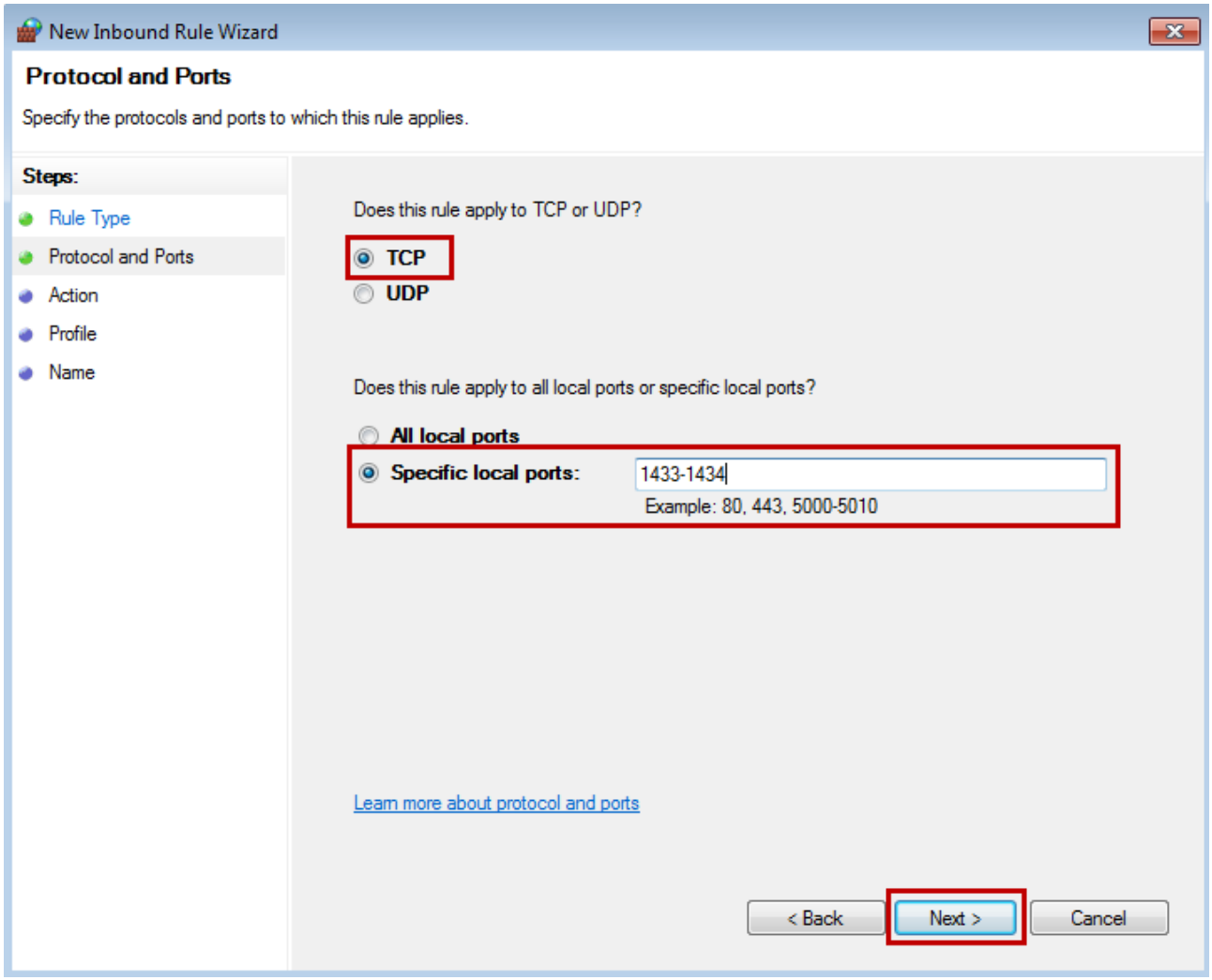
Choose『Inbound Rules』then click『New Rule...』.



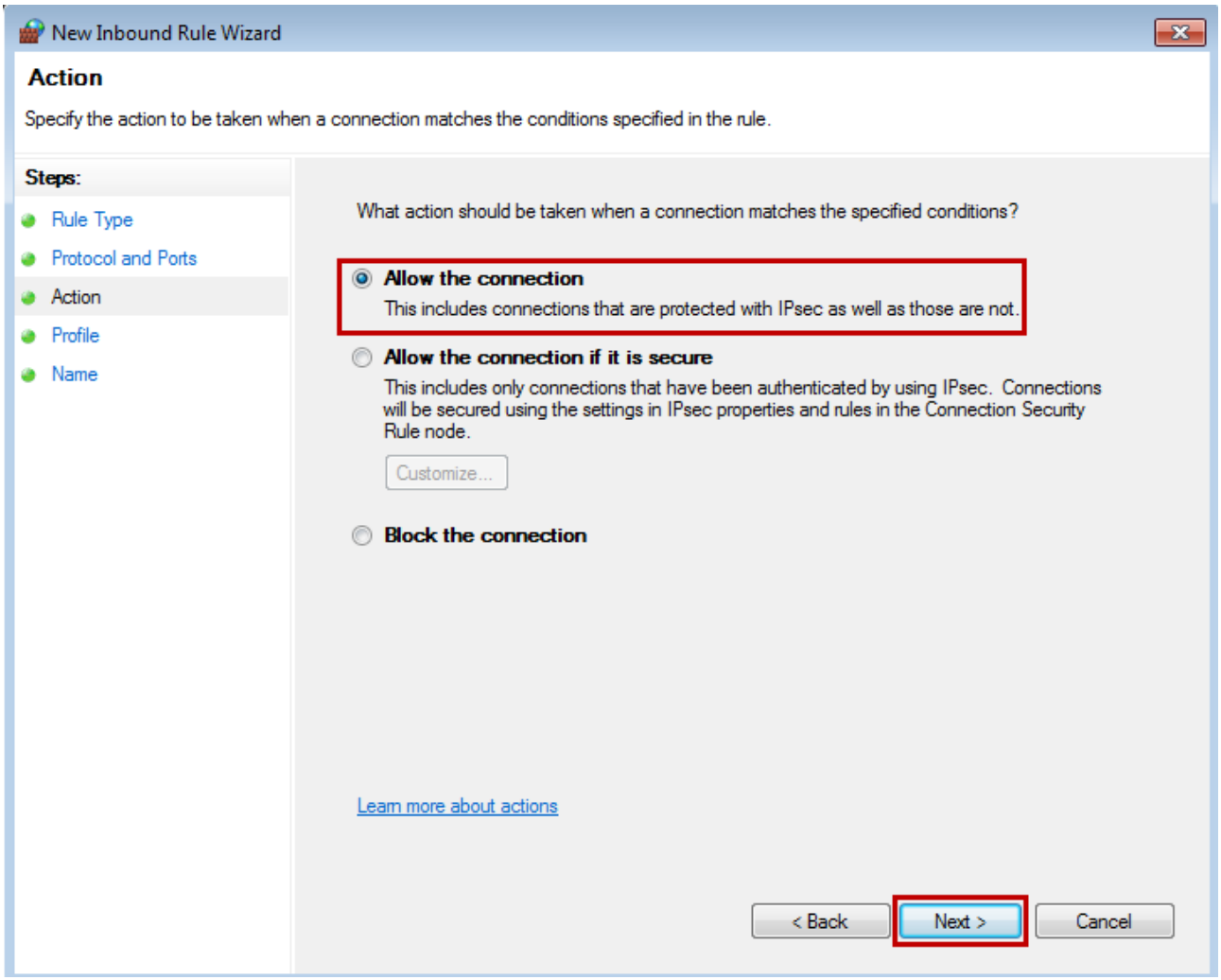
Select **Port** for further setting.



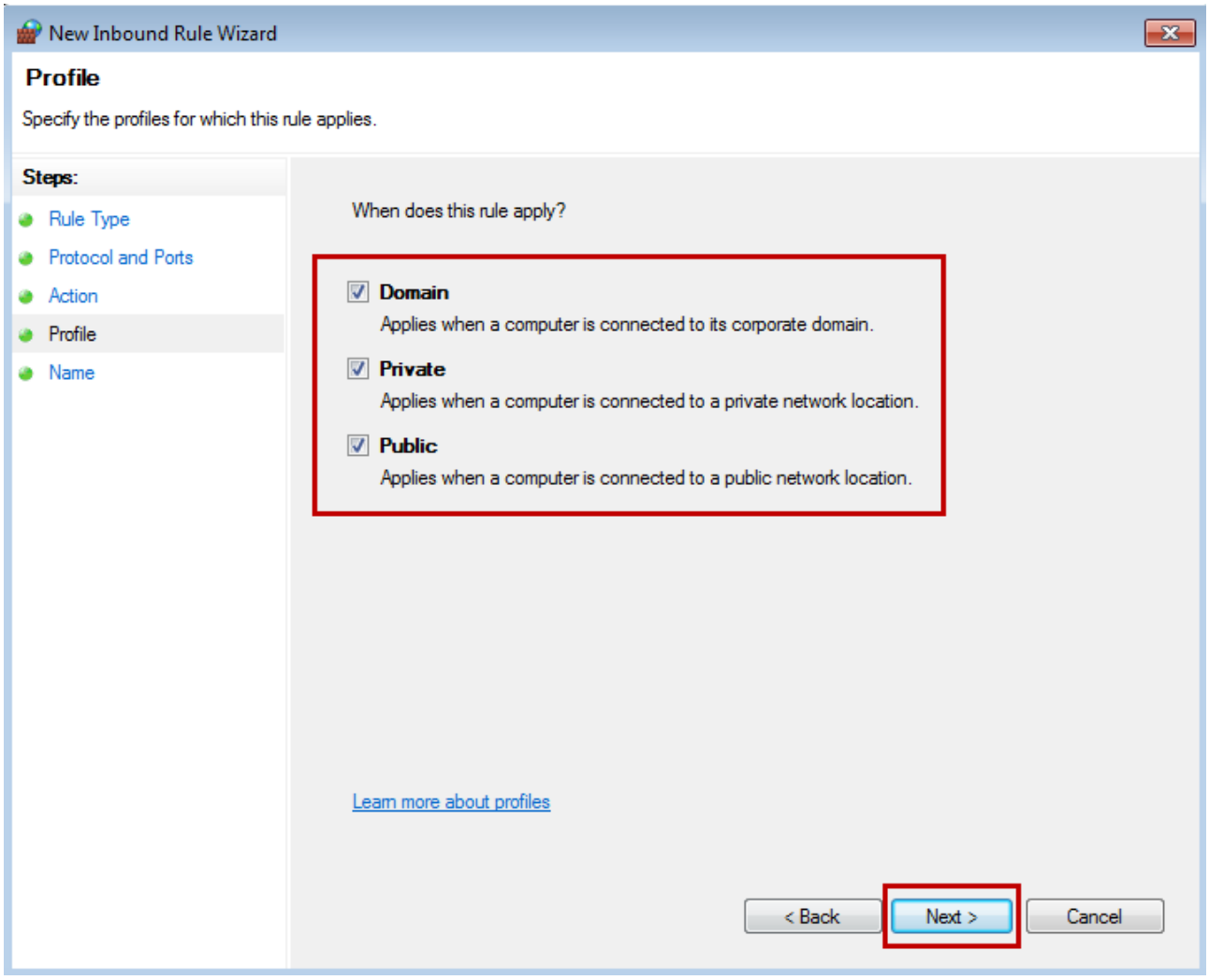
Enable specific ports for the Named Pipes connection and the TCP/IP connection. Since the connection default port no. is 1433 and 1434, we set local connection port as “1433-1434”.



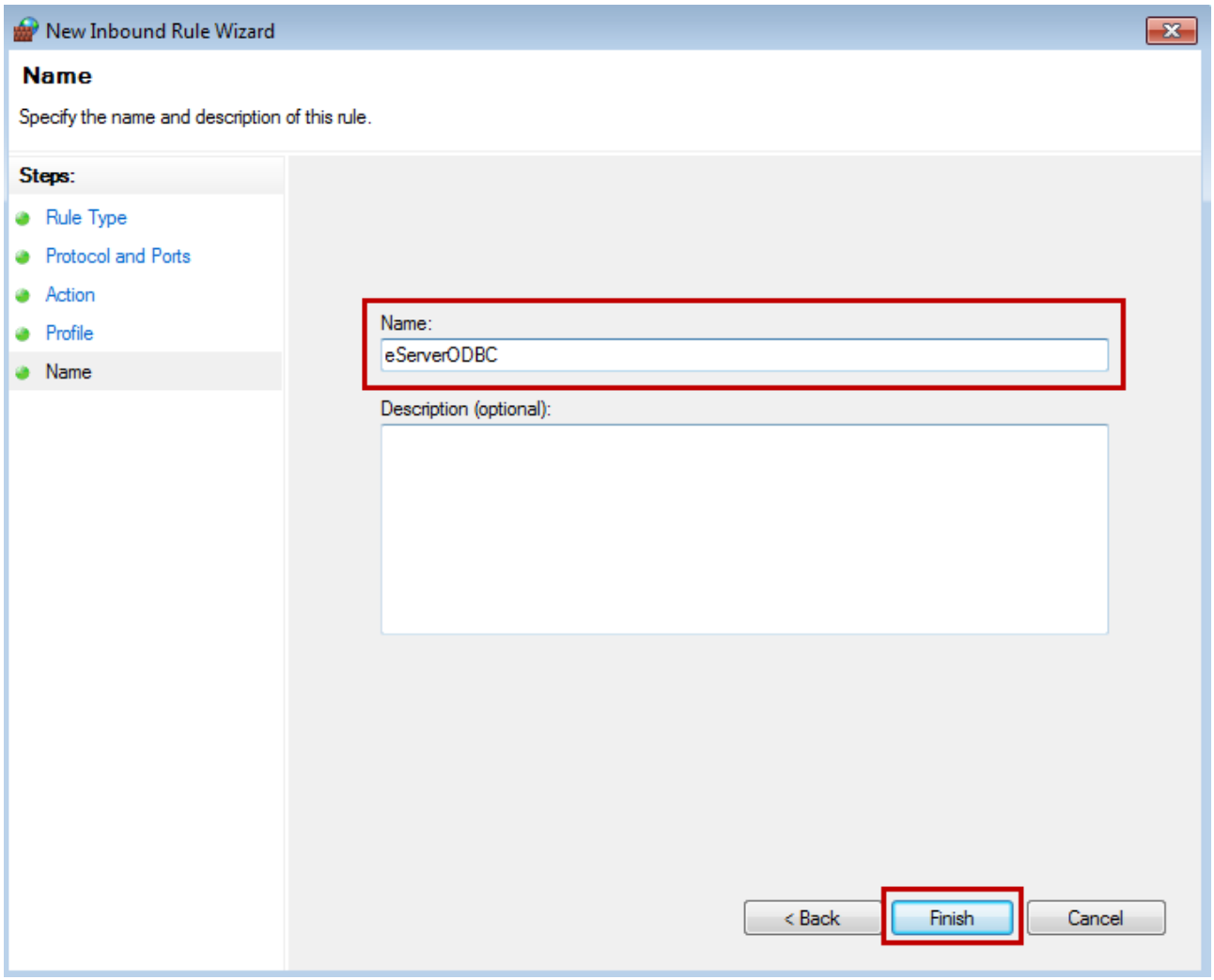
Please select **Allow the connection**.



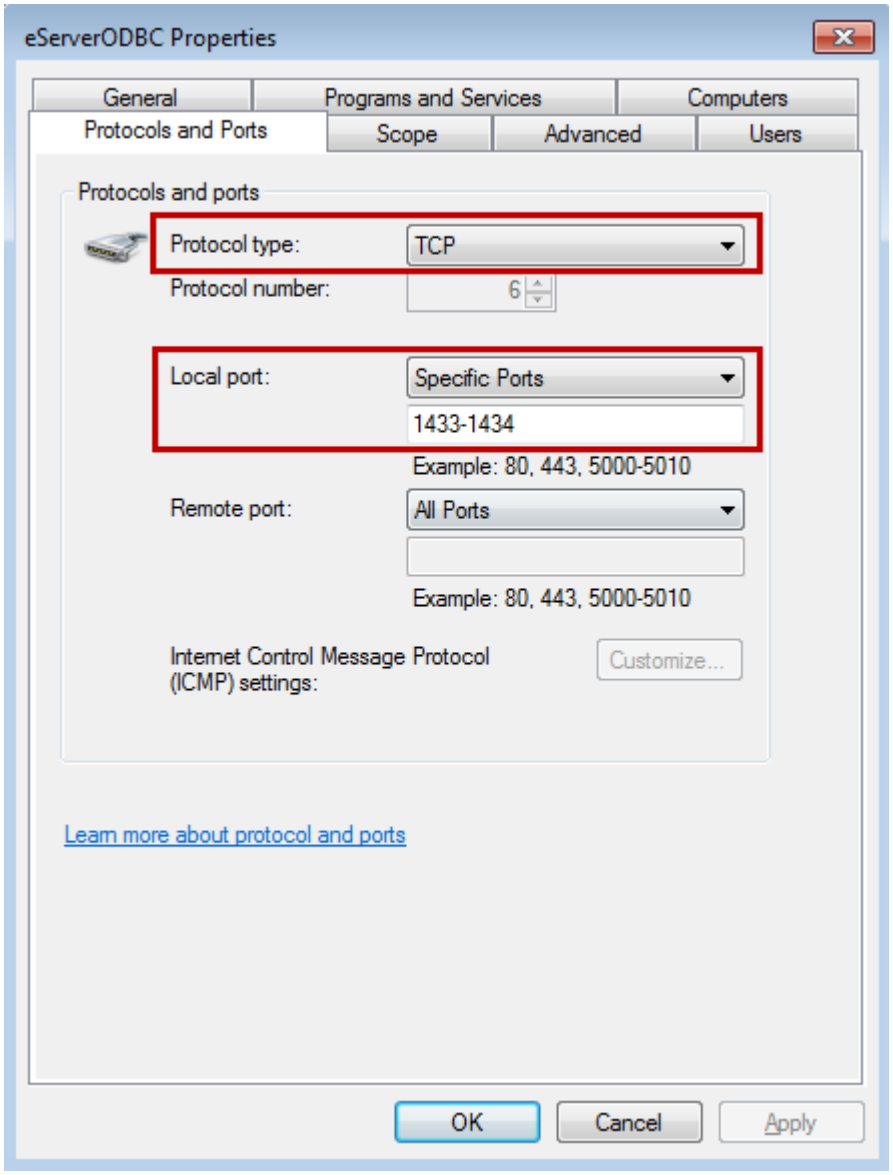
Select all then click **Next**.



Enter the Name of this rule. eServerODBC is the entered name in this example. Users can self setup the name.



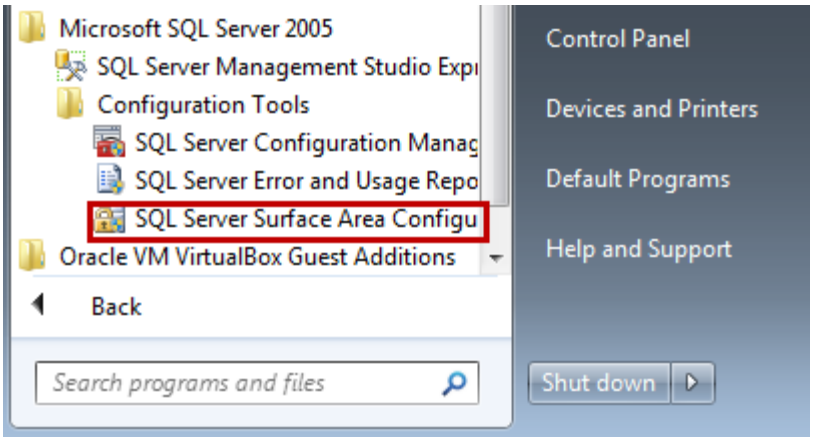
After the setting is completed, double click **eServerODBC properties** to check the following settings.



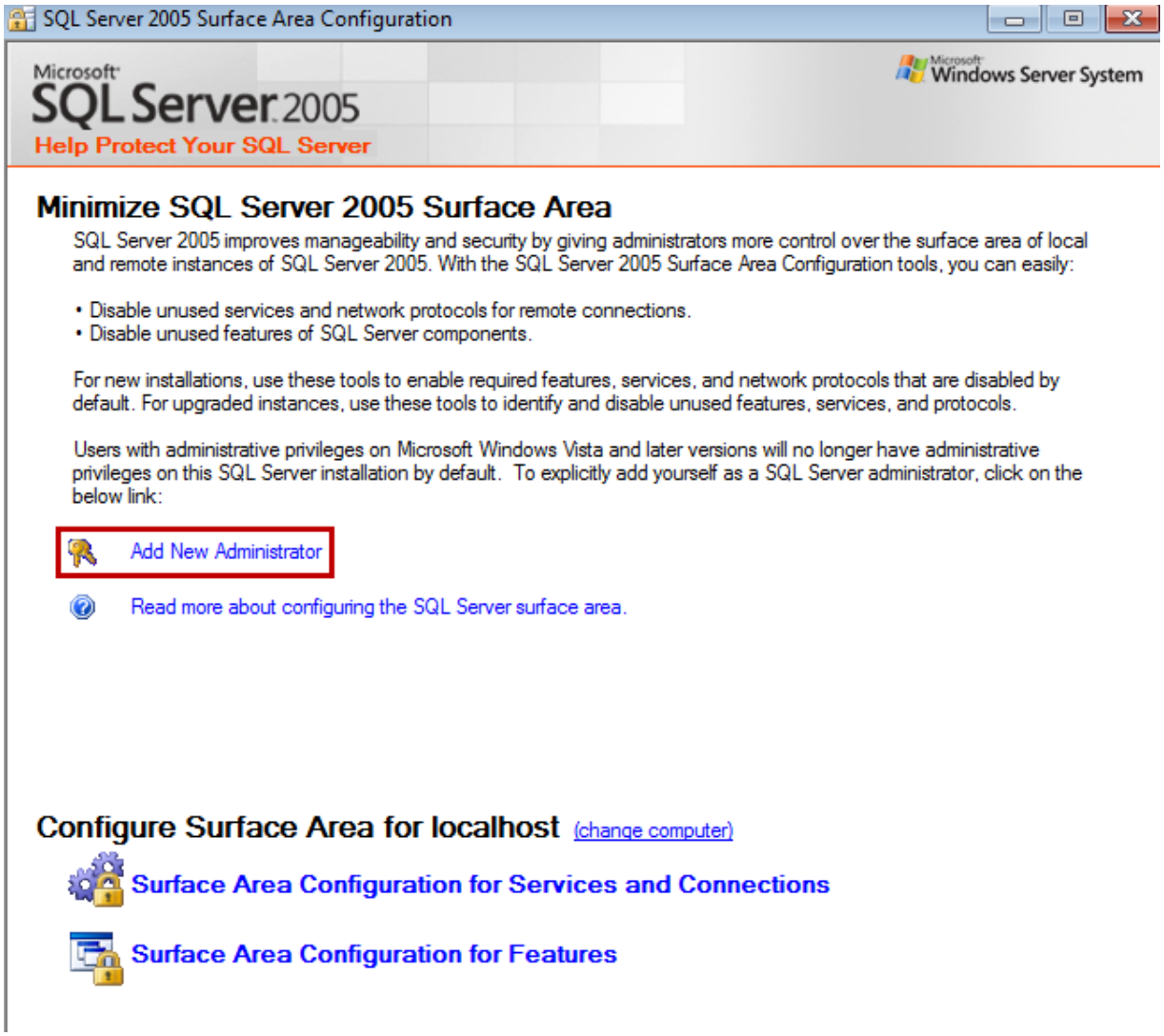
Then, please restart the computer.

➢ Setting of SQL Server Authorization:

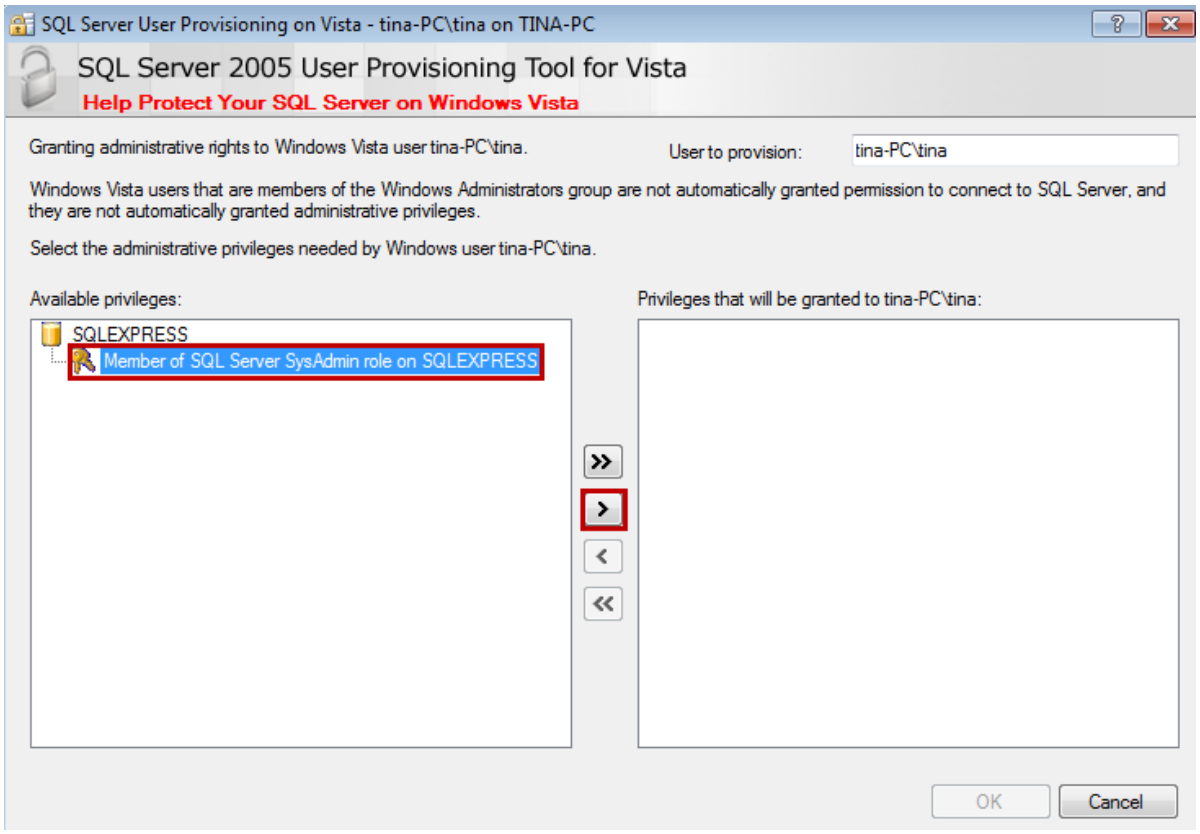
Enter『SQL Server Surface Area Configuration』 to setup user authorization.



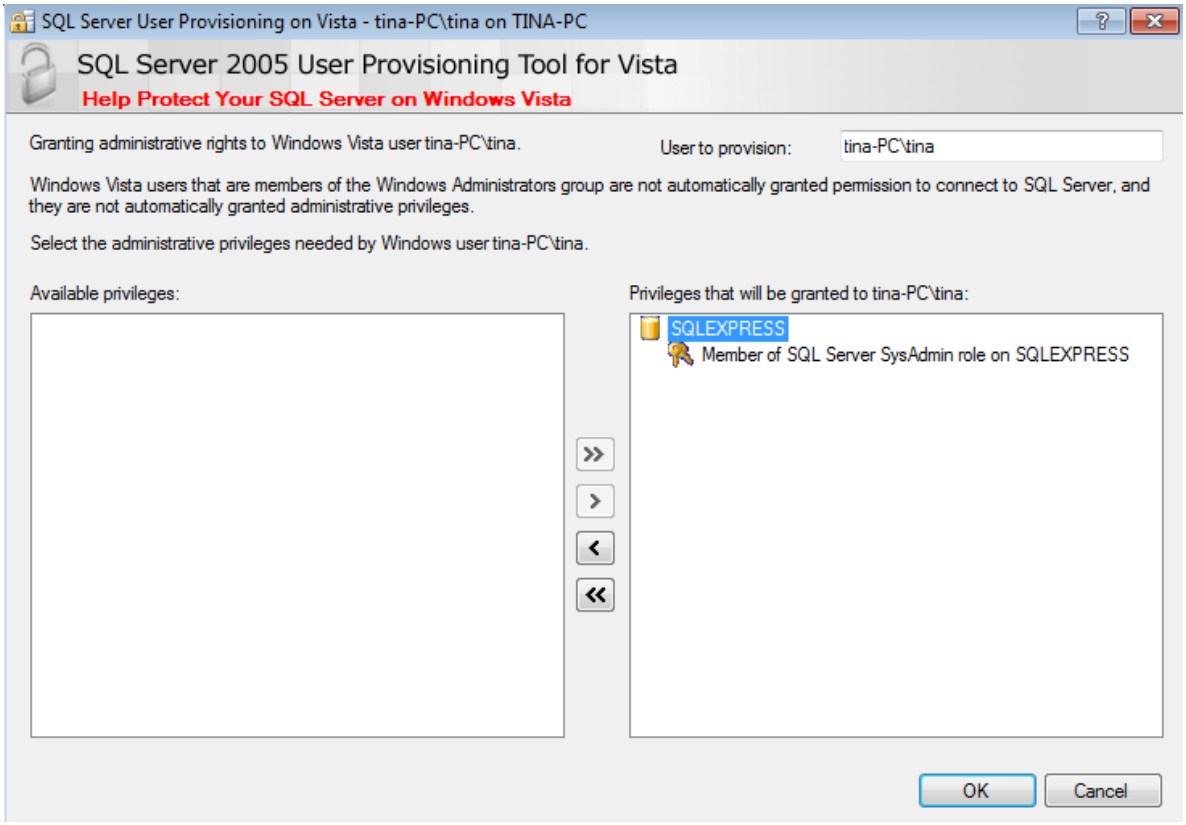
Click『Add New Administrator』.



Select Avaliable privileges. Then, press『>』.

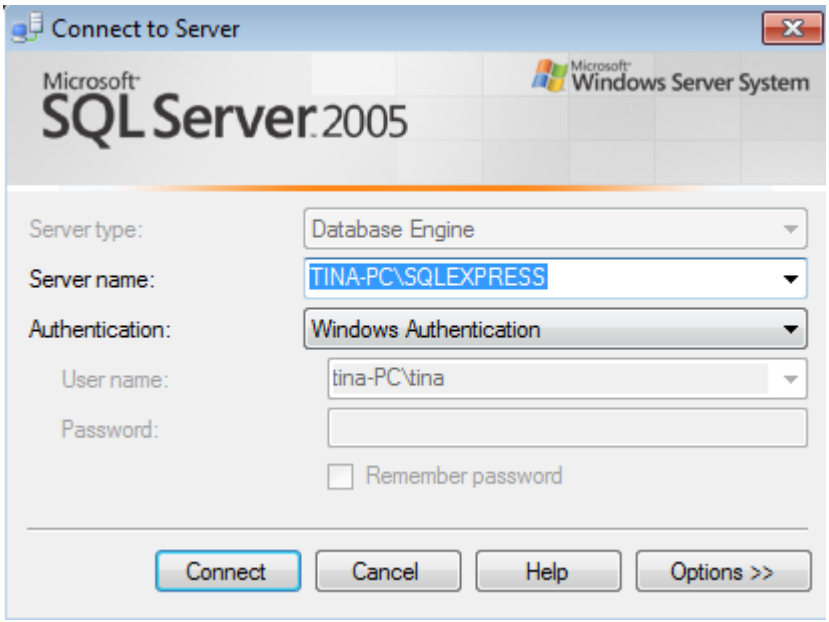


Press **OK**.

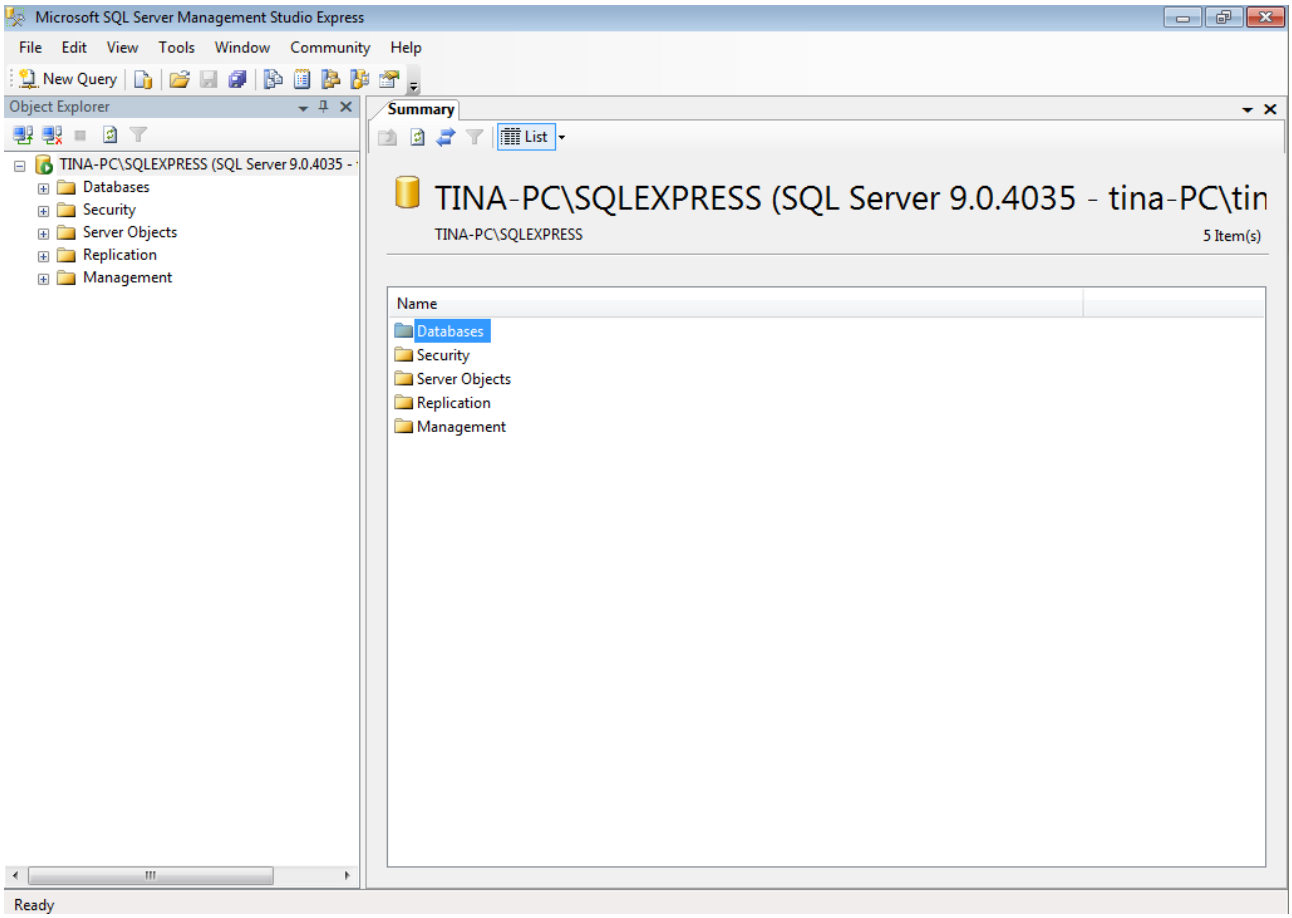


➢ Setting of SQL Server 2005 Database:

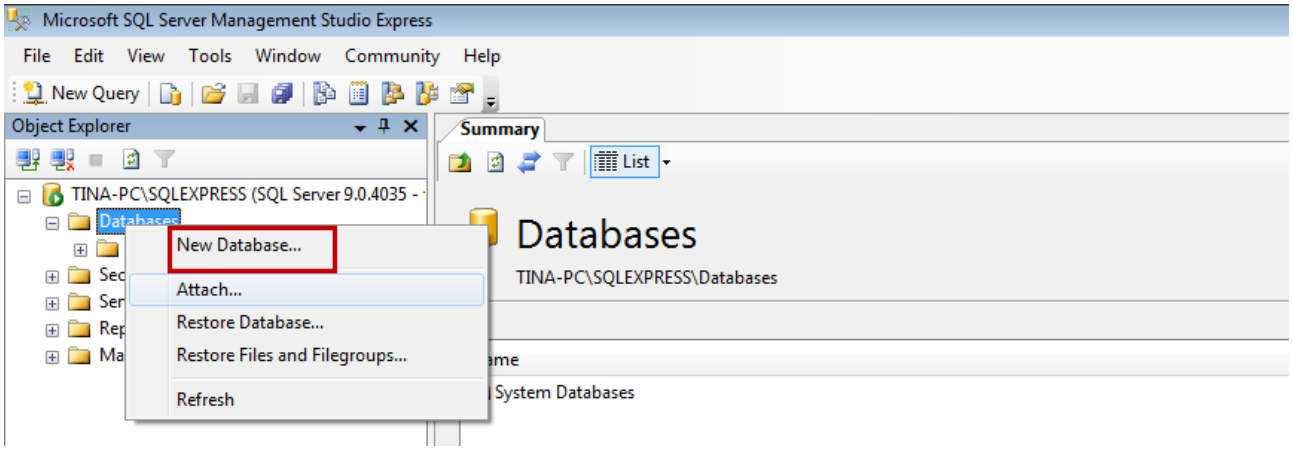
Click Start ➔ All Program ➔ Microsoft SQL Server 2005 ➔ SQL Server Management Studio Express. And the following window will pop up. Please click【**Connect**】.



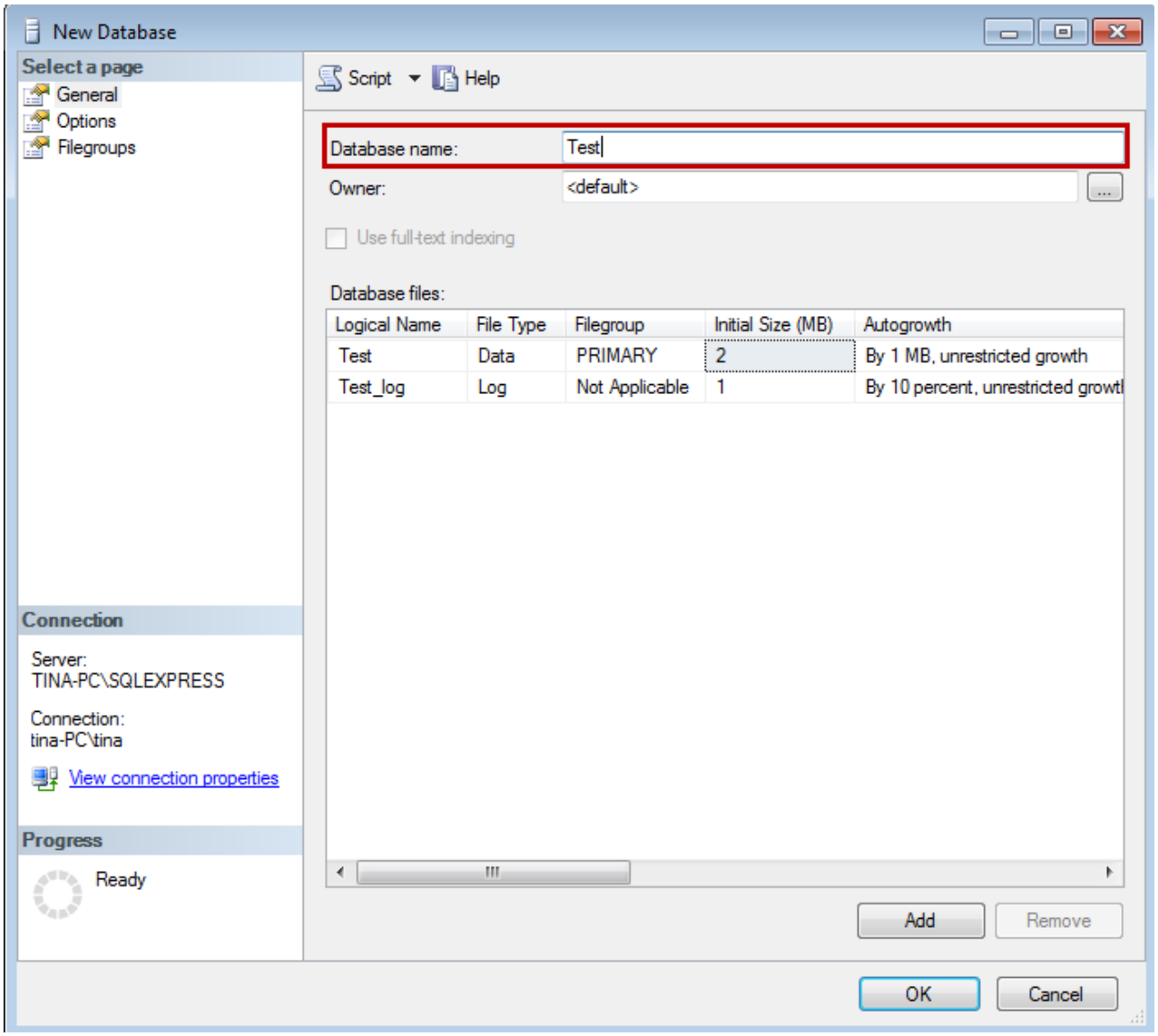
When the connection is established, the following window will pop up.



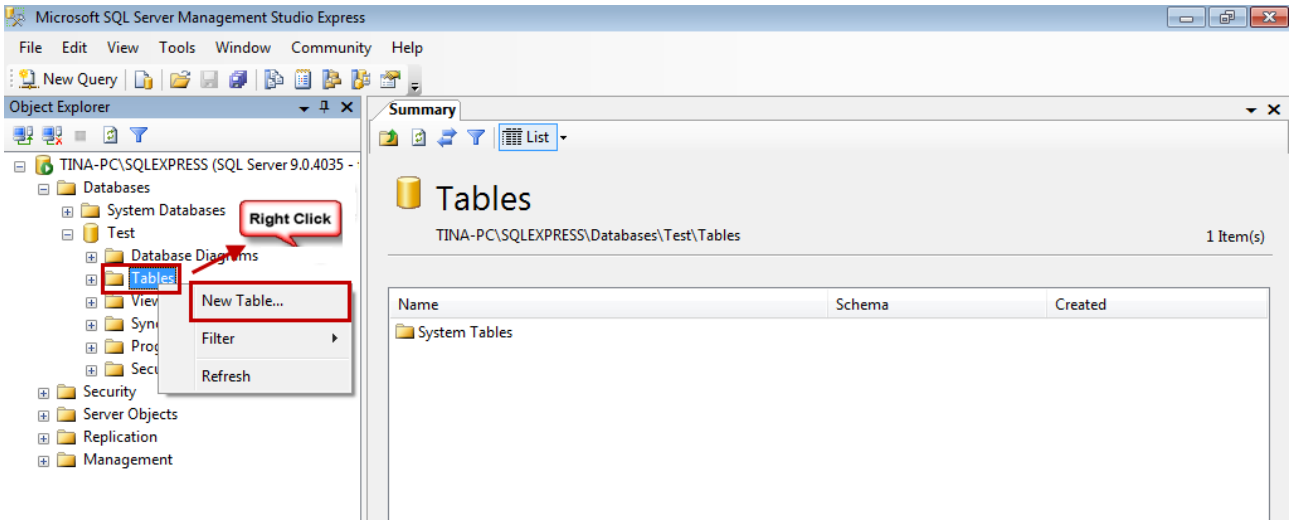
Go to the window of 【Object Explorer】. Right click【Database】, then select 【New Database(N) …】.



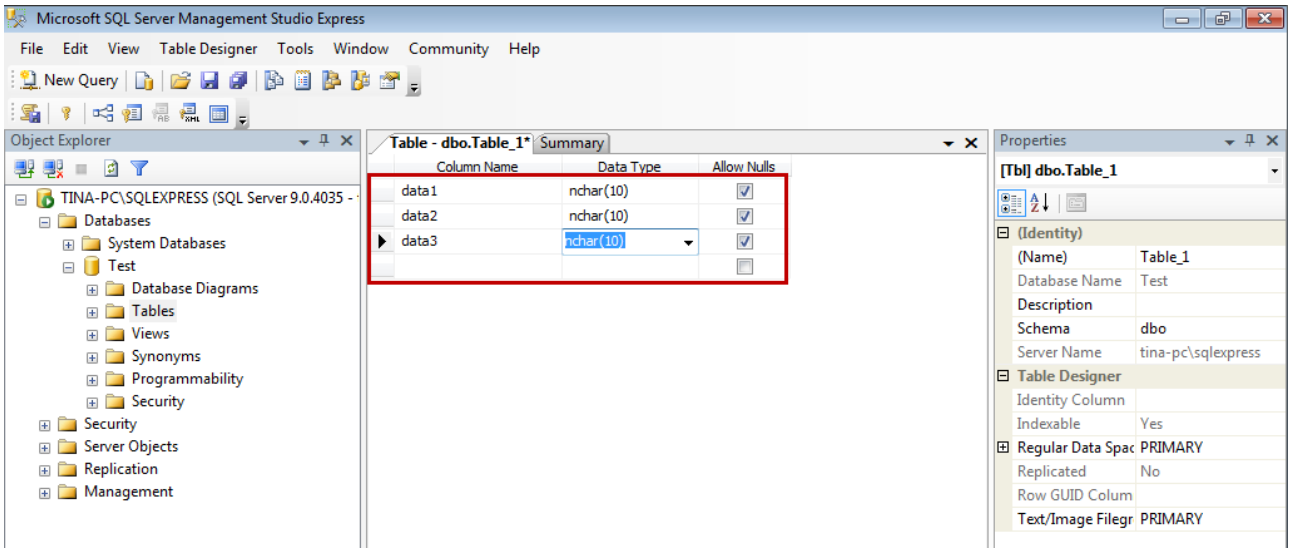
Then, the following window will pop up. Setup Database name in【Database name(N)】. In this example, the database name is 『Test』. Please click 【OK】after the setting is completed.



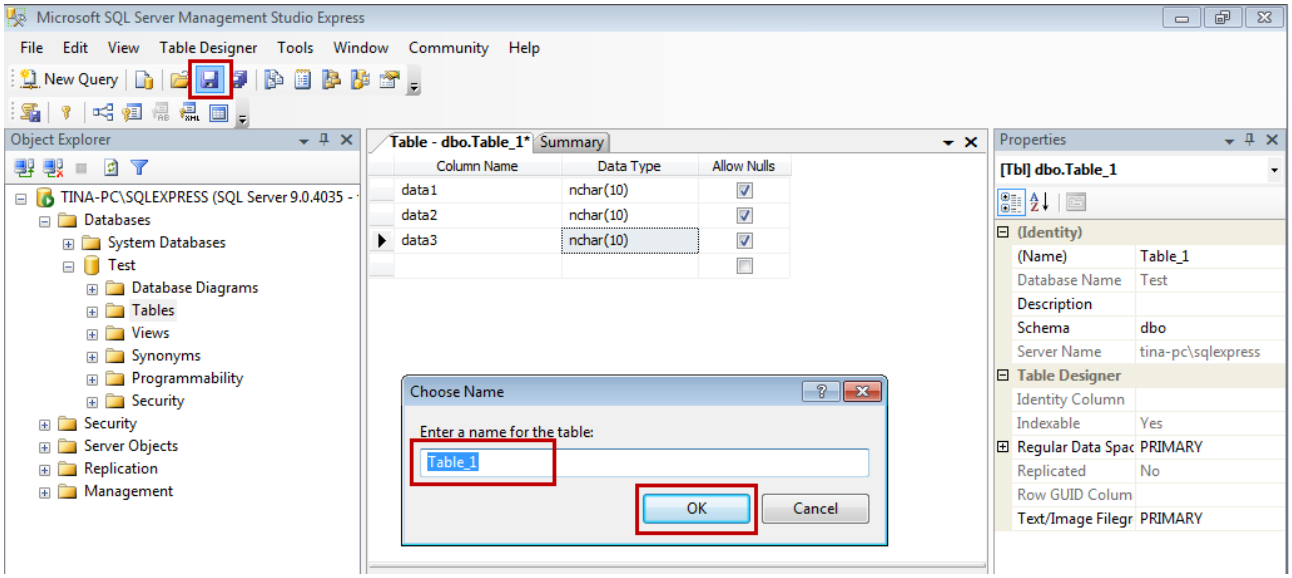
When establishing the database, 『Test』 has been created in【Databases】 which under 【Object Explorer】. And 【Tables】 is under it. Right click **Tables**, then select【New Table…】.



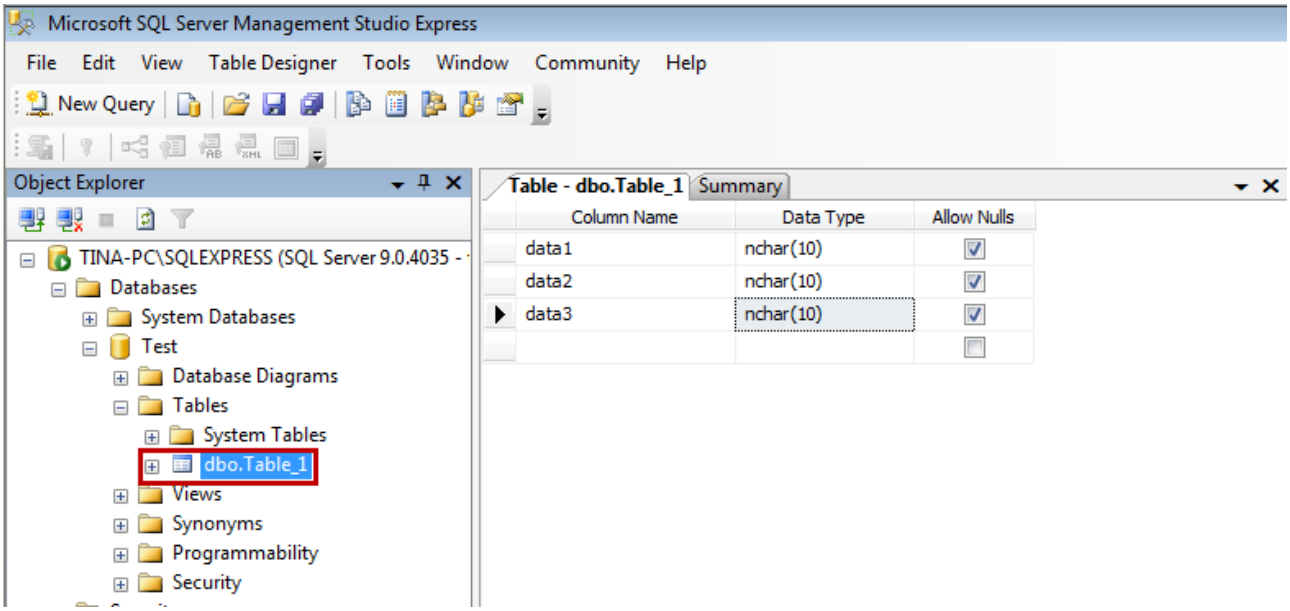
Please enter the newly added data in sequence. Data1, data2 and data3 are three column names in this example, their data type are nchar(10).



Then, please click **Save** to save the column name, see as below. A **Choose Name** dialogue will pop up at the moment. This example shows『Table_1』. After entering the name, click【OK】.



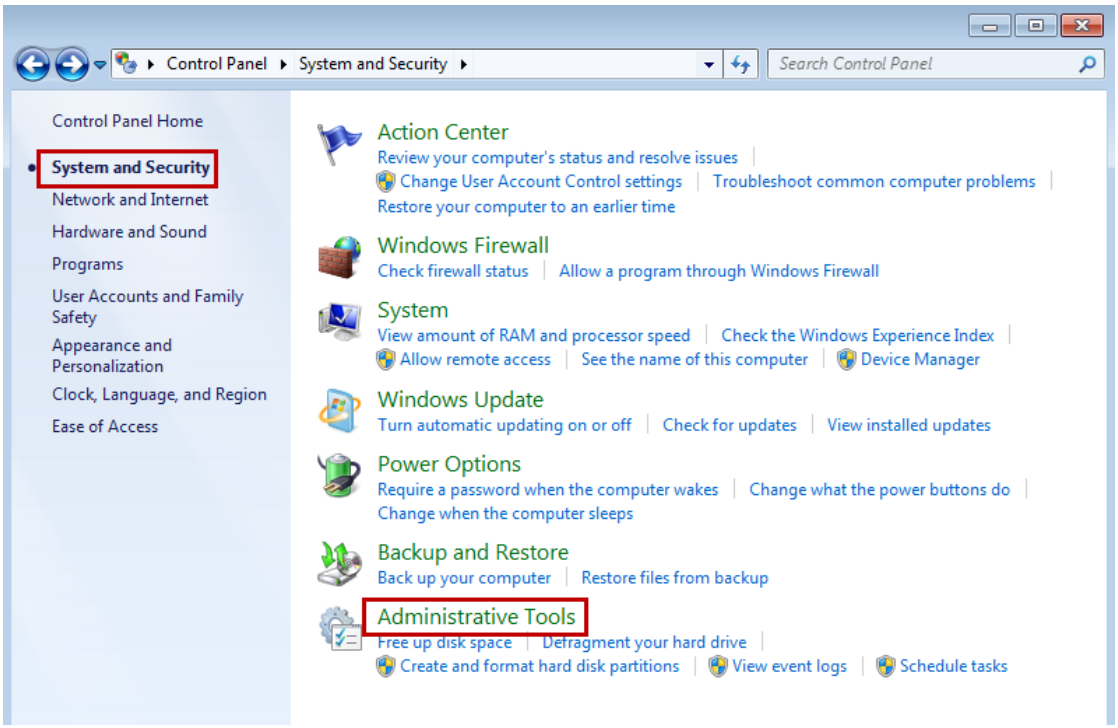
After establishing the data sheet, users can see the newly added one in【Object Explorer】. Please note that, “dbo” will be added as the prefix in front of the name. Thus, if it is named Table_1, users will see 『dbo.Table_1』 in【Object Explorer】.

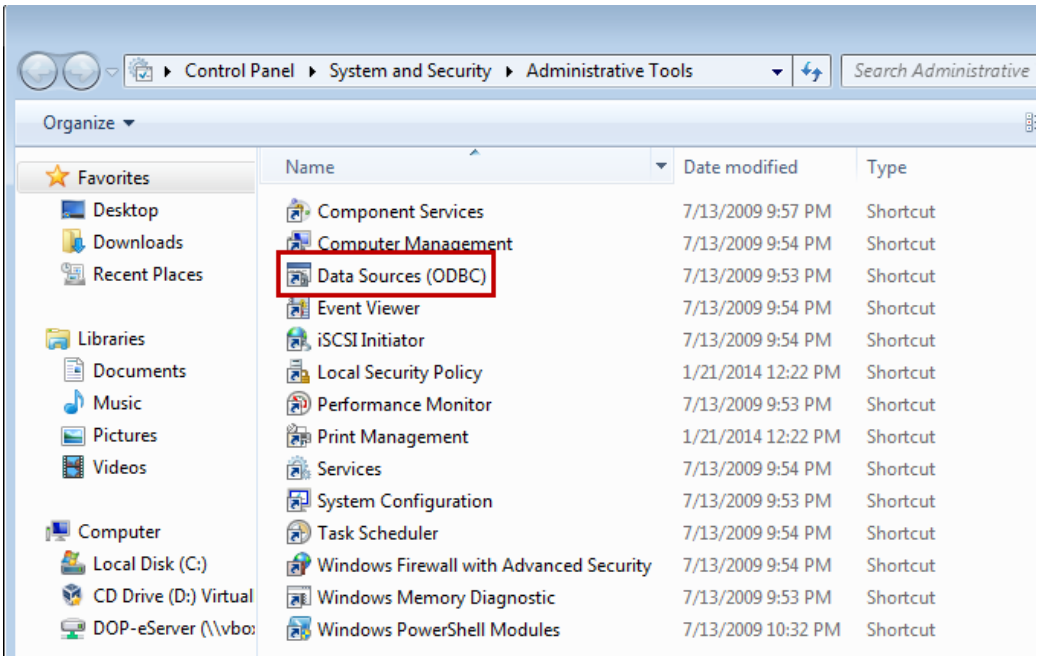


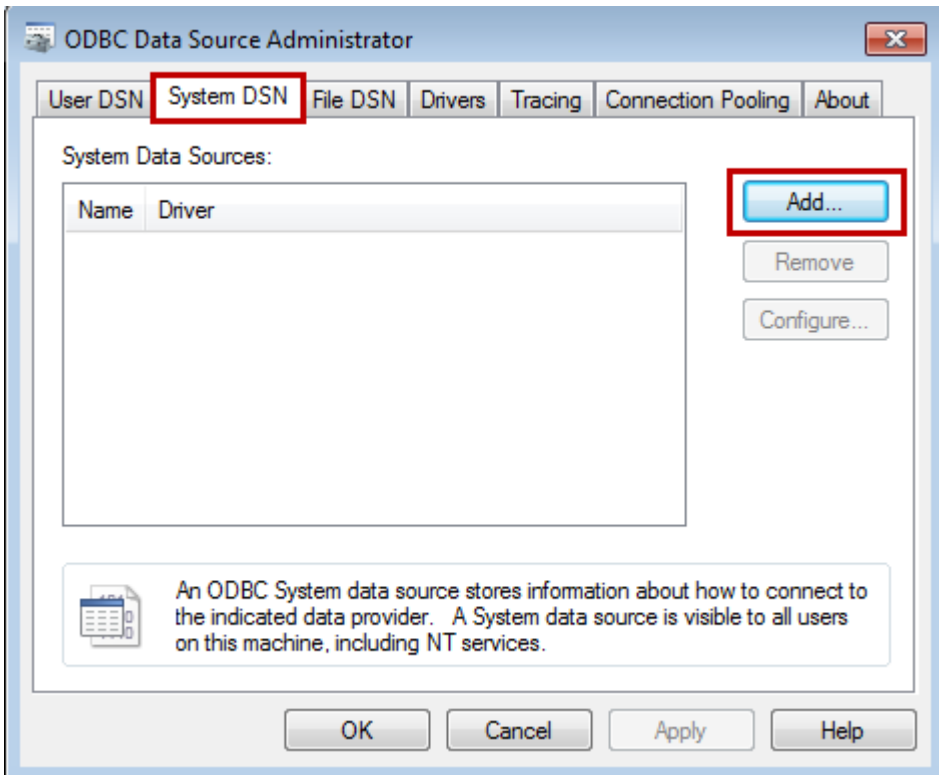
➢ ODBC Setting:

The installation of SQL Server 2005 and SQL Server Management Studio Express in Win 7 is similar to XP window system. The only difference is that, if desire to install ODBC driver in Win 7 64bits, only the built-in 32-bit ODBC driver can be used to connect eServer. Please download 32-bit ODBC driver from **C:\Windows\SysWOW64\odbcad32.exe**. Please copy the above link and execute the program. Refer to the following description for ODBC setting.

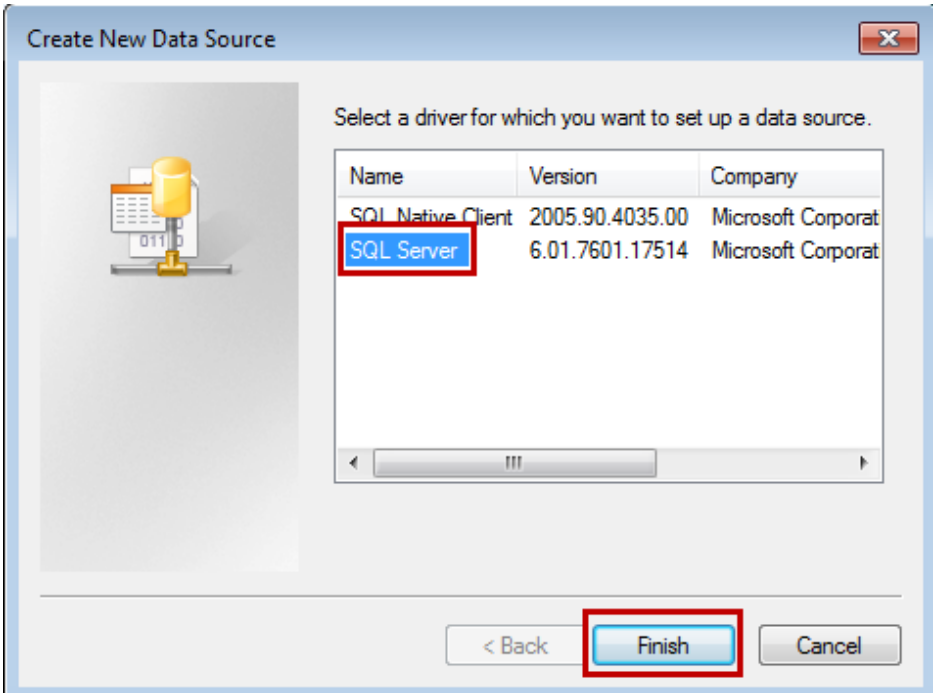
Enable『Control Panel』➔『Administrative Tools』➔『Data Sources (ODBC)』 and select 『System DSN』 to add new item.






ODBC Data Source Administrator
User DSN
System DSN
File DSN
Drivers
Tracing
Connection Pooling
About
System Data Sources:
Name
Driver
Add...
Remove
Configure...
An ODBC System data source stores information about how to connect to the indicated data provider. A System data source is visible to all users on this machine, including NT services.
OK
Cancel
Apply
Help

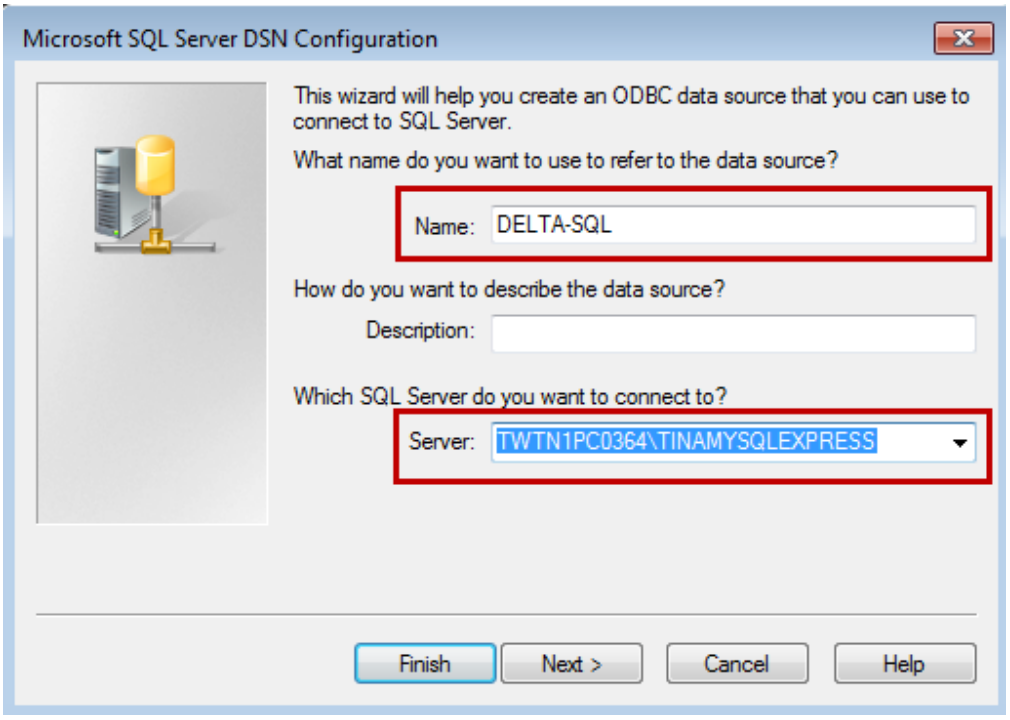
Please select SQL Server as the driver. Then, click【**Finish**】.



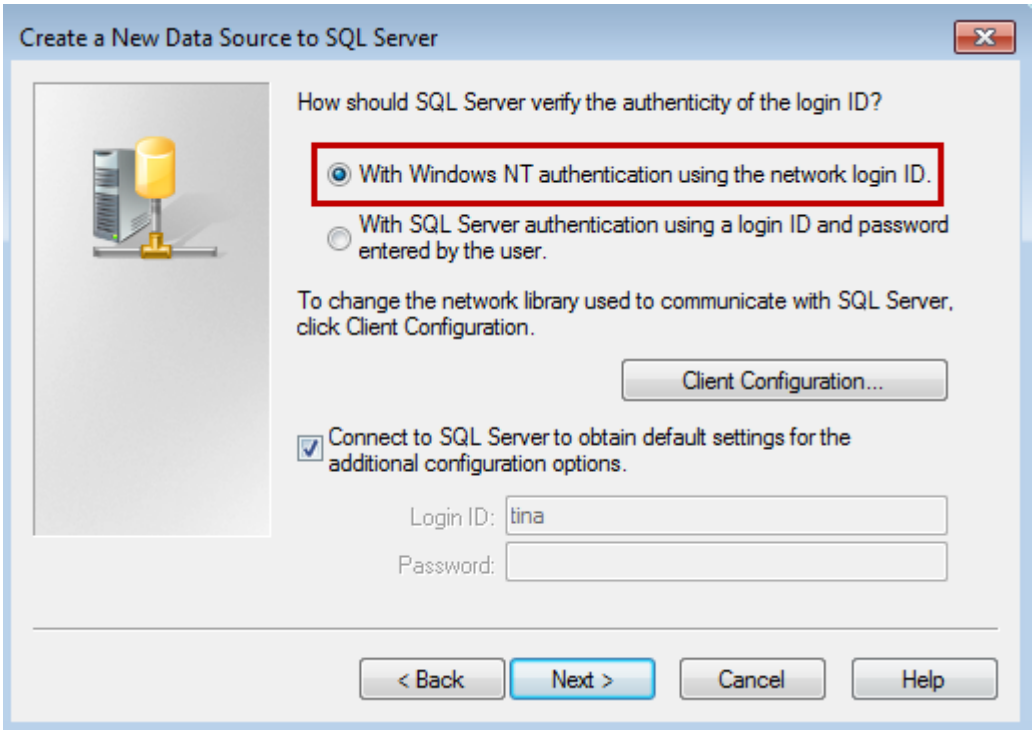
Please note that this is set according to Delta's Intranet. Thus, the following server name (TWTN1PC0364) might be different from the one you installed.

【Name】: Please setup the name, such as DELTA-SQL in the example.
【Server】: Please select the corresponding server after installing SQL Server 2005

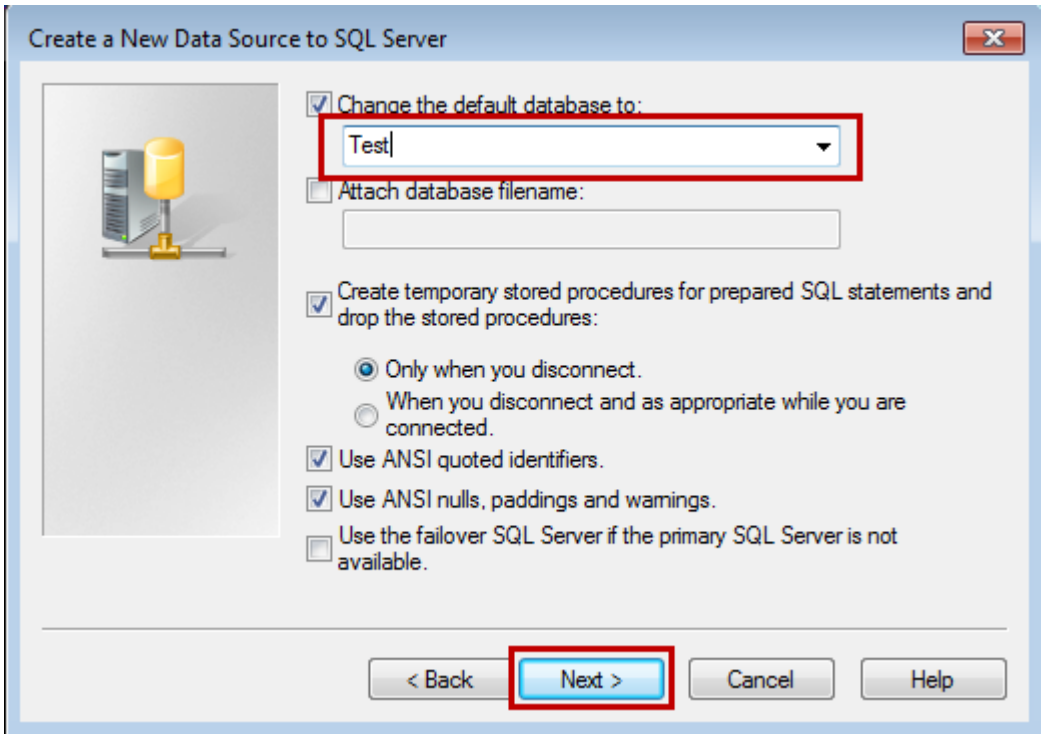
When the setting is completed, click【Next】.



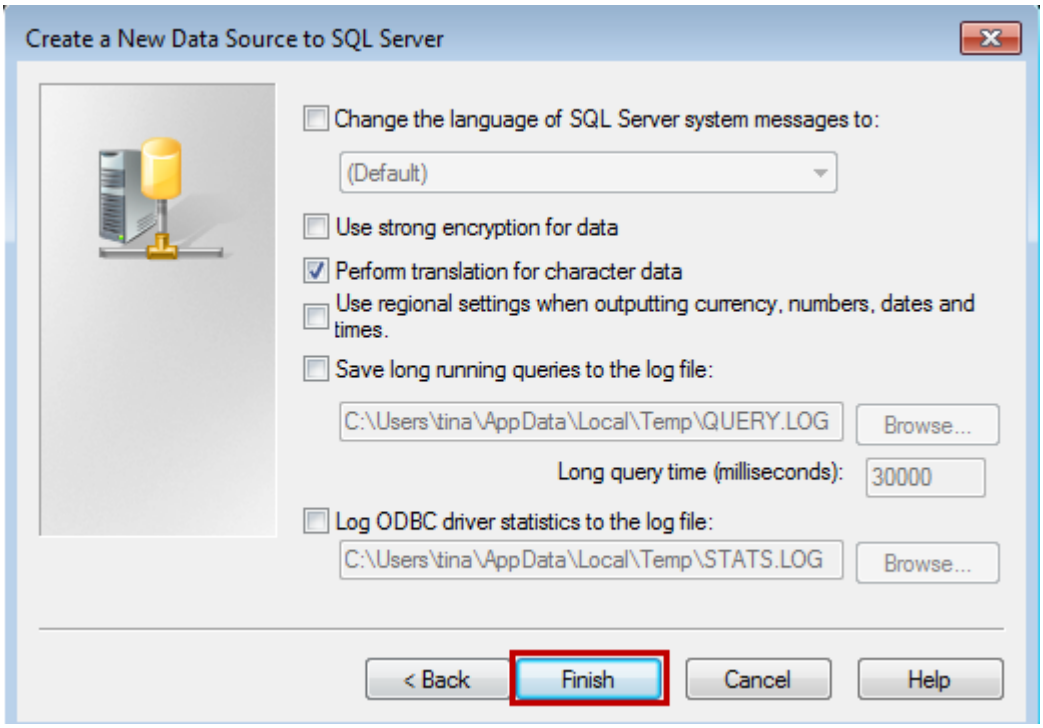
Please select 【With Windows NT authentication using the network login ID (W)】 and click 【Next】.



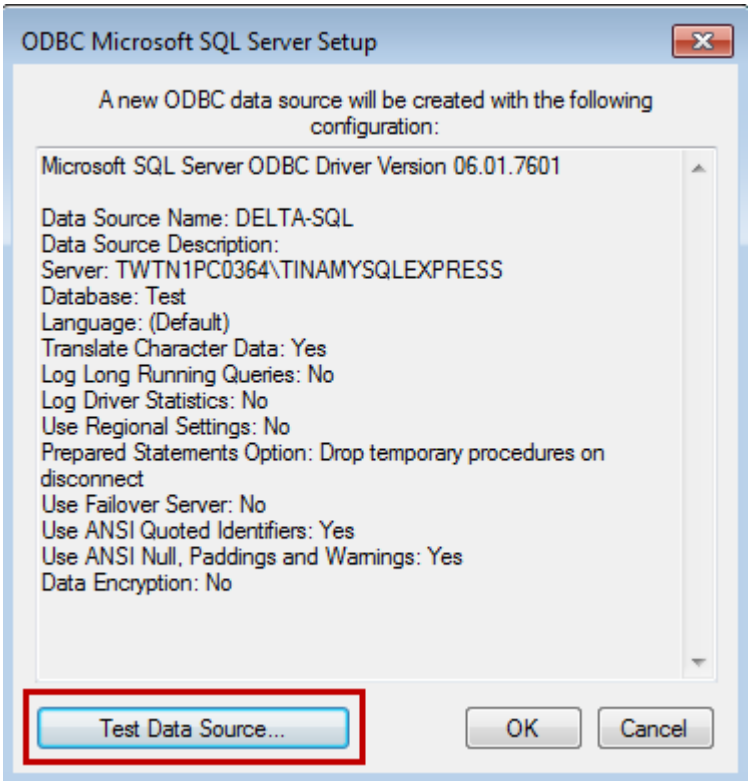
Please check『Change the default database to』, and select database『Test』which is built before. Then, click【Next】.



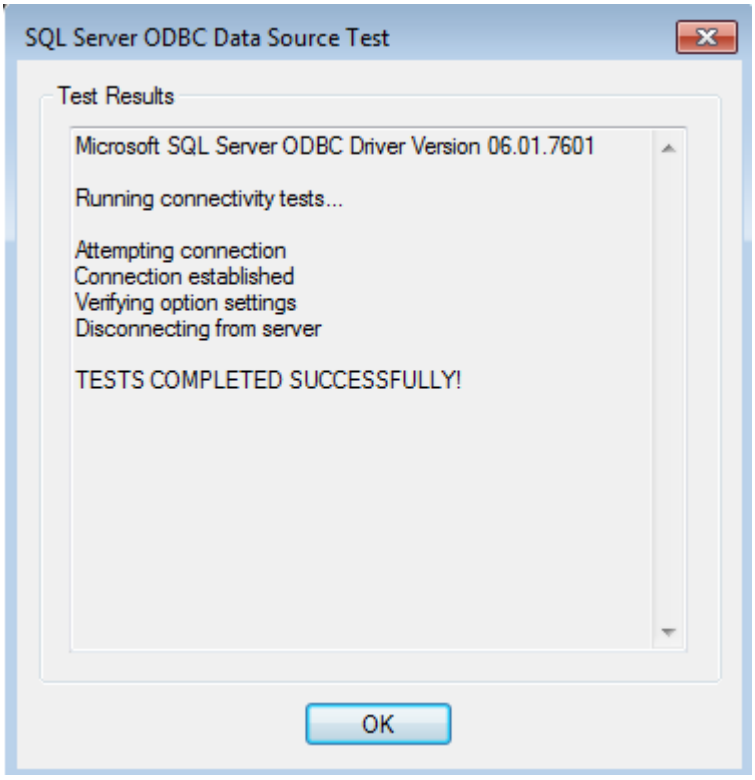
Use the default value and click【Finish】.



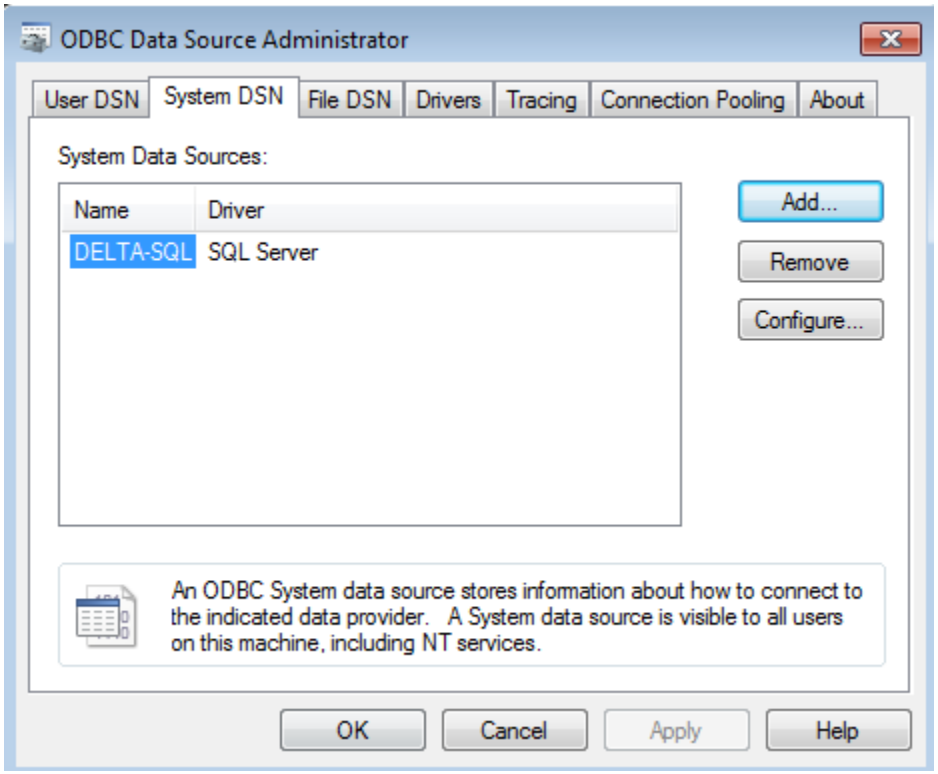
It shows ODBC is installed, which can test if the connection between ODBC Driver and SQL Server is successfully built.



Click【SQL Server ODBC Data Source Test】and test some items. If no problem occurs, the window will display the following message. Then, please click【OK】to complete the testing procedure.



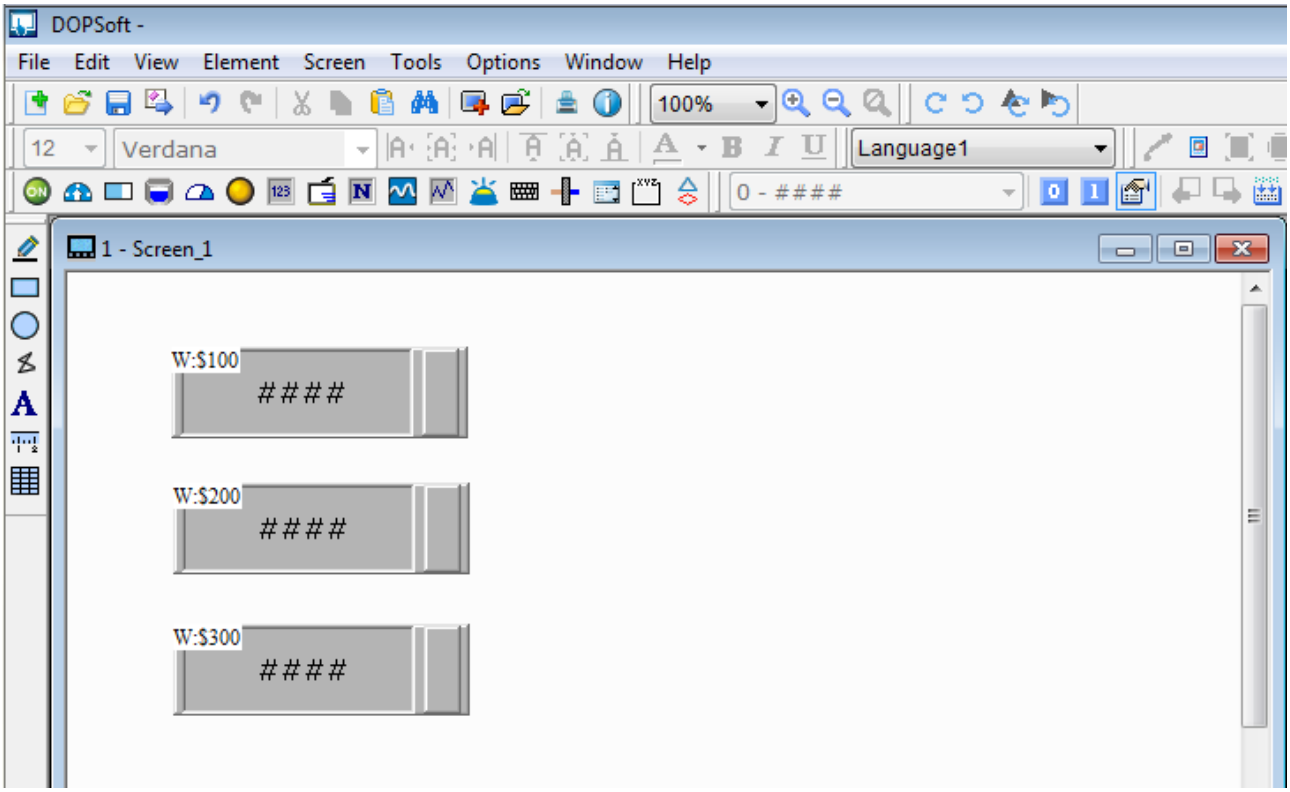
After complete the test, click【OK】. It will go back to【System DSN】， one ODBC Driver is newly added at the moment and is named as『DELTA-SQL』, which shown as below.



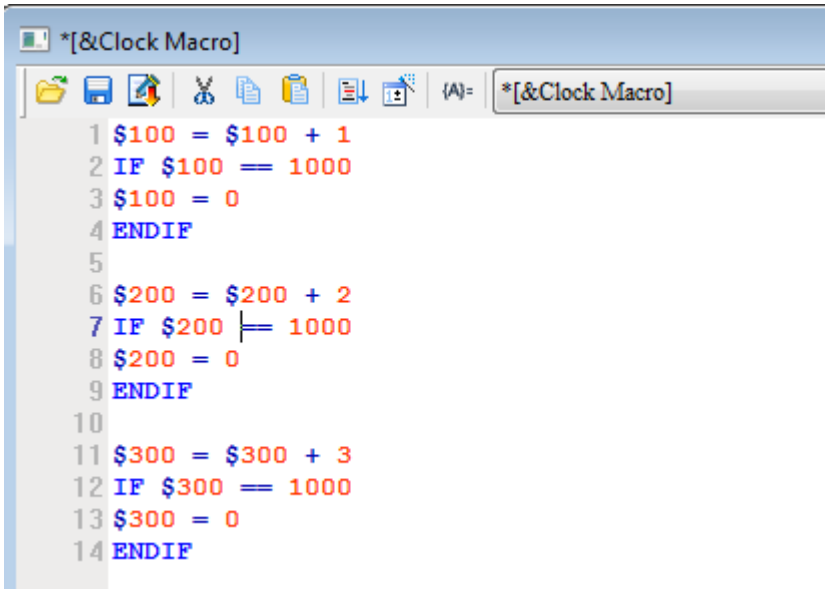
10.1.2 Create HMI Project File

Enable DOPSoft. B10E615 is created in this example.

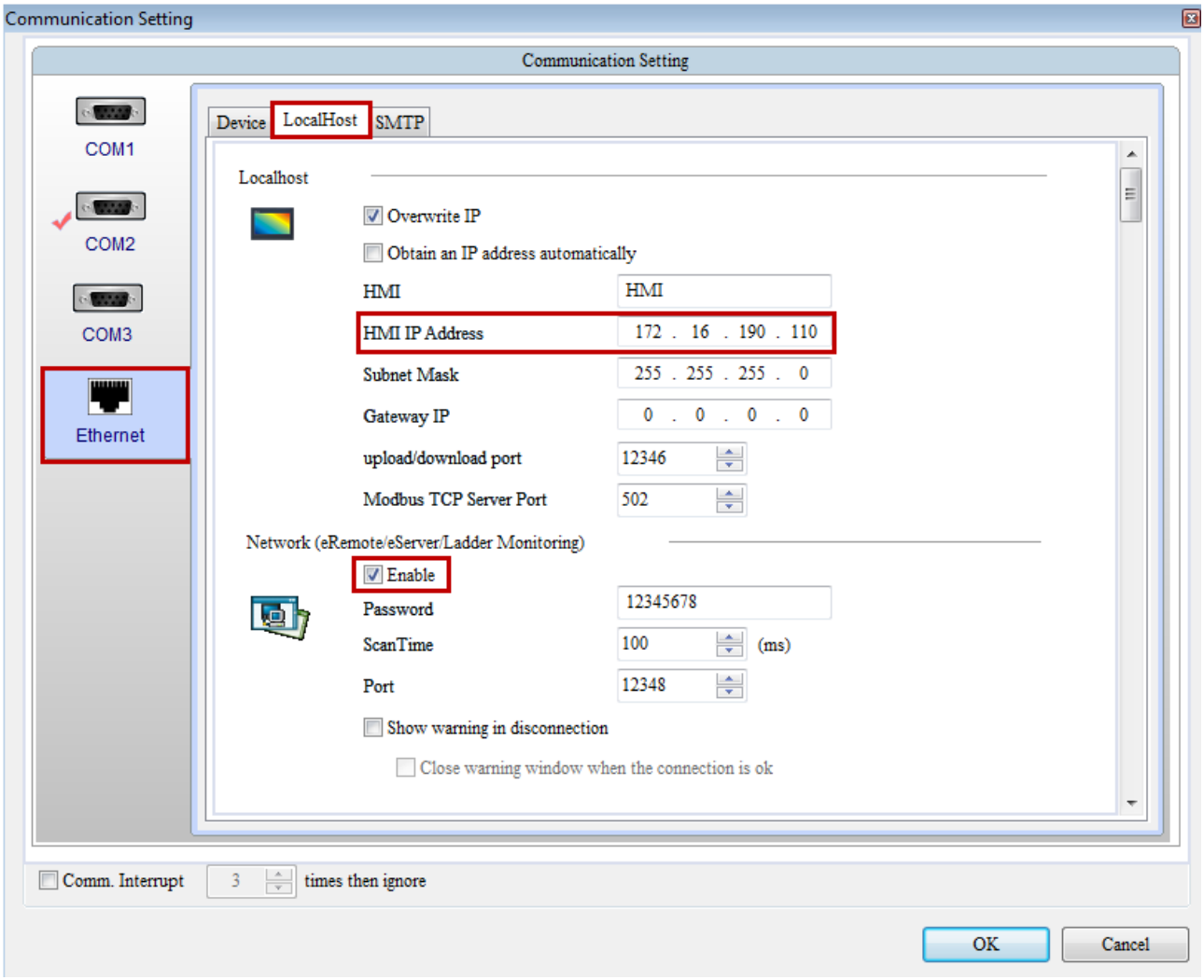
Create a new project and three numeric entry, $100, $200 and $300.



Enter the following macro in Clock Macro.

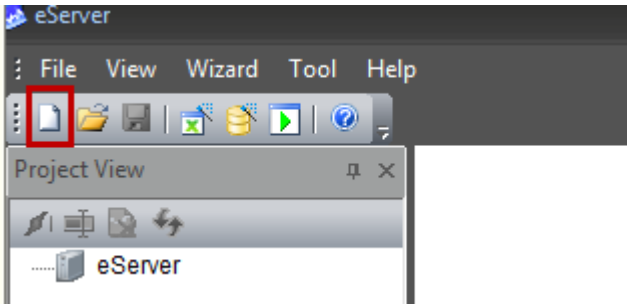


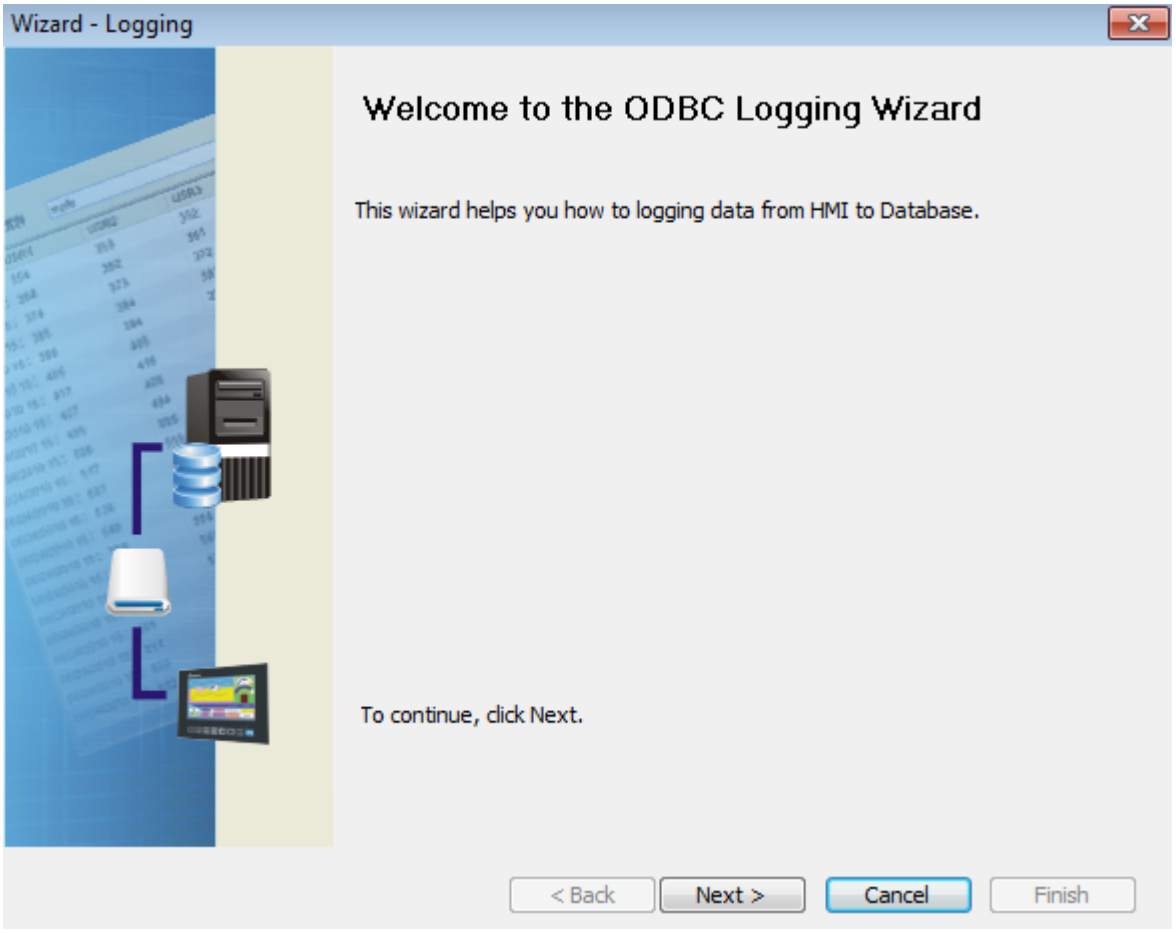
Enter「Selection」→「Communication Setting」→「Ethernet」→ setup HMI IP Address in 「LocalHost」, then check **Enable** to activate 【Network】. Preset the password as 『12345678』. Users can self change this password.



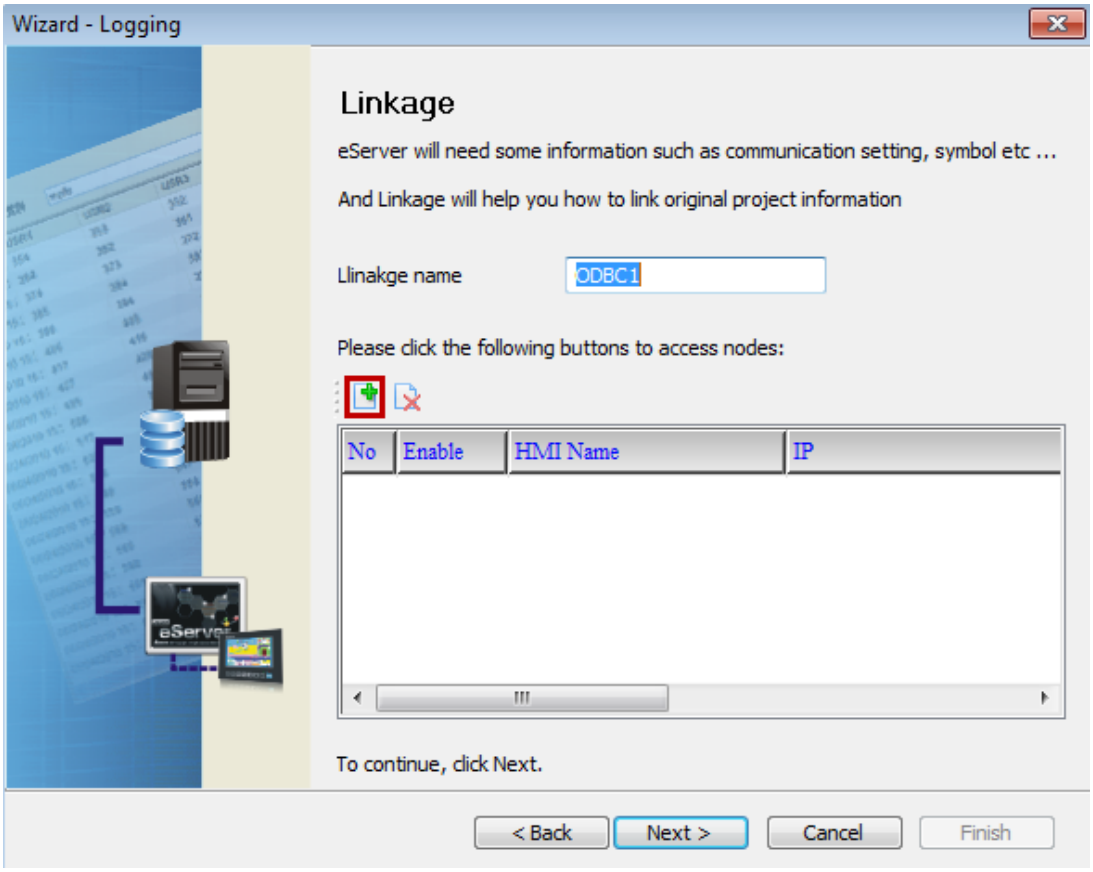
10.1.3 eServer Setting

1. Open a new project of Logging (ODBC) and click「  」to activate ODBC Logging Wizard.

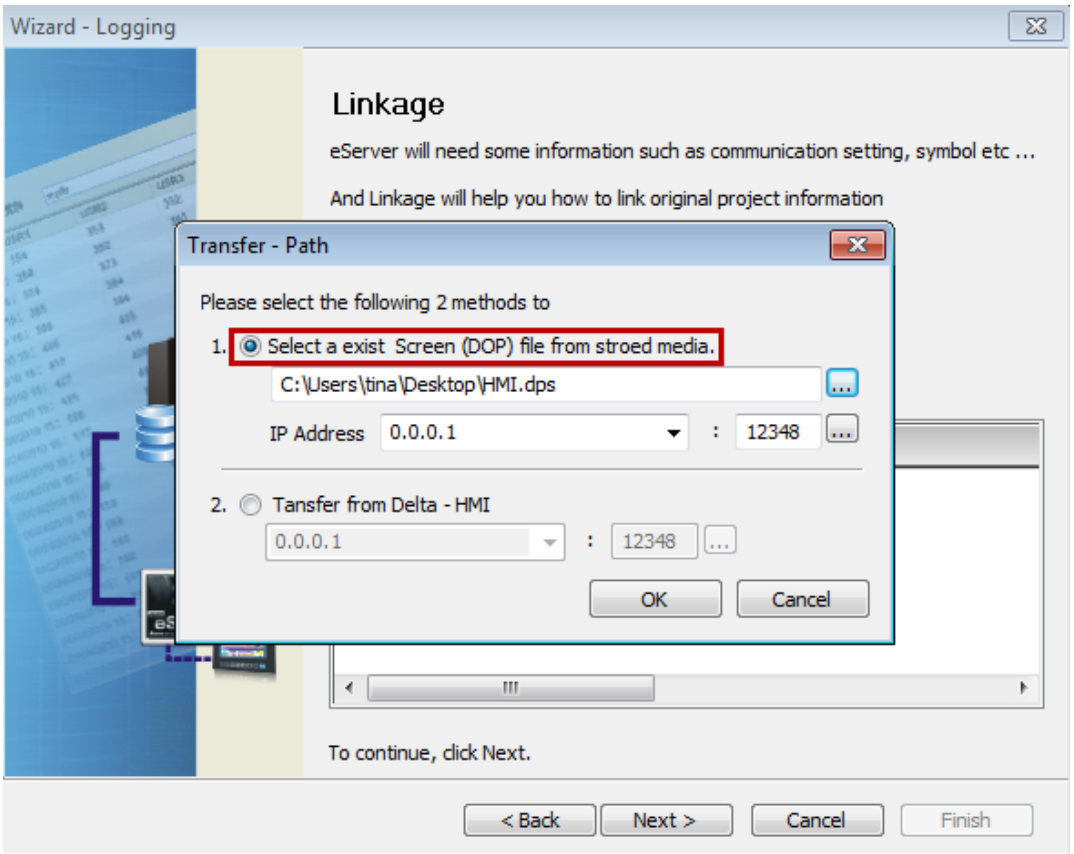




Add nodes.



Select the screen project and click【OK】, then click【Next】.



This page is for setting ODBC. Please refer to the following description:

ODBC Data Source: Please click【DELTA-SQL】which is created before.

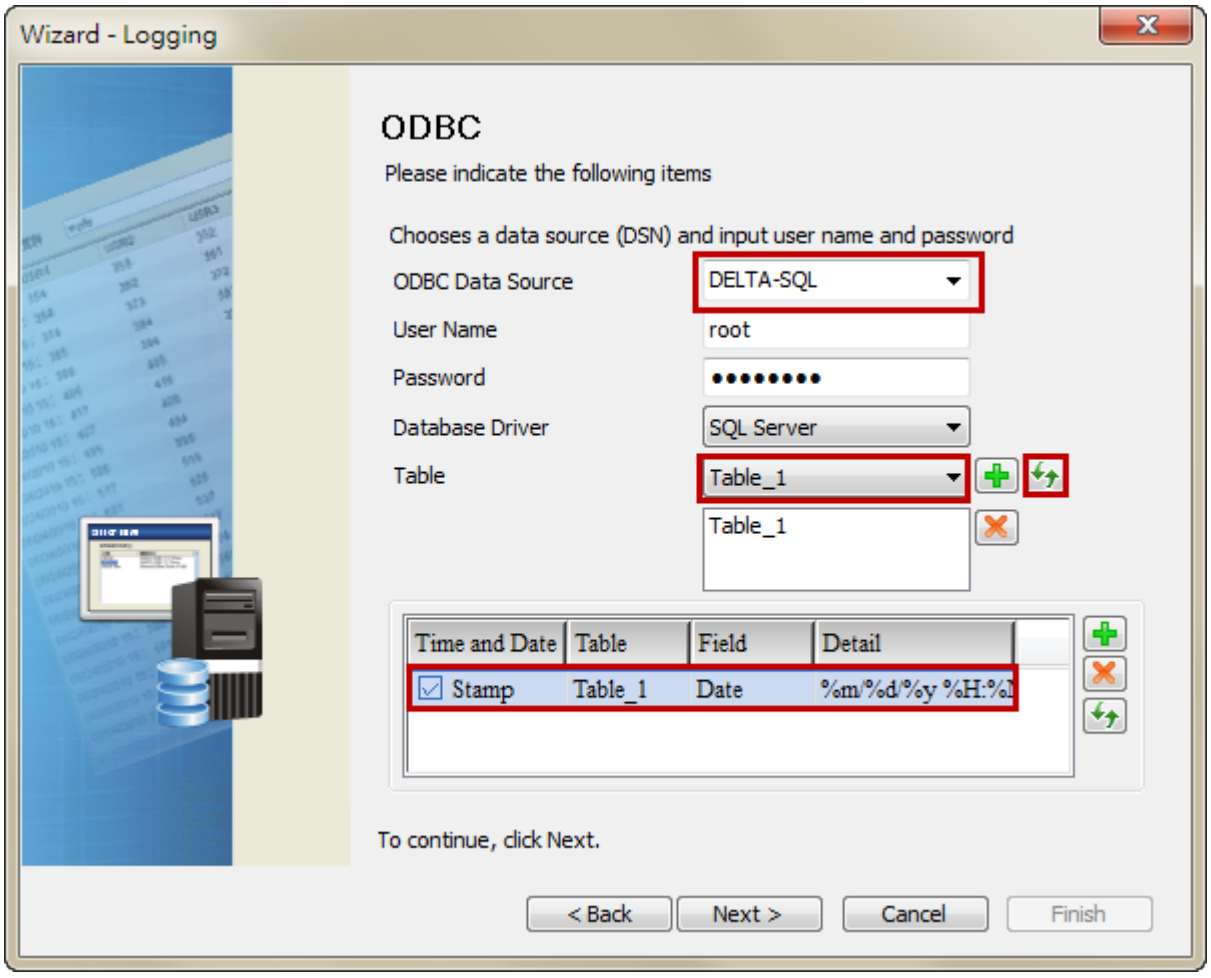
User Name and **Password:** Enter any name you want

Database Driver: Please select【SQL Server】, then click  to update the datasheet.

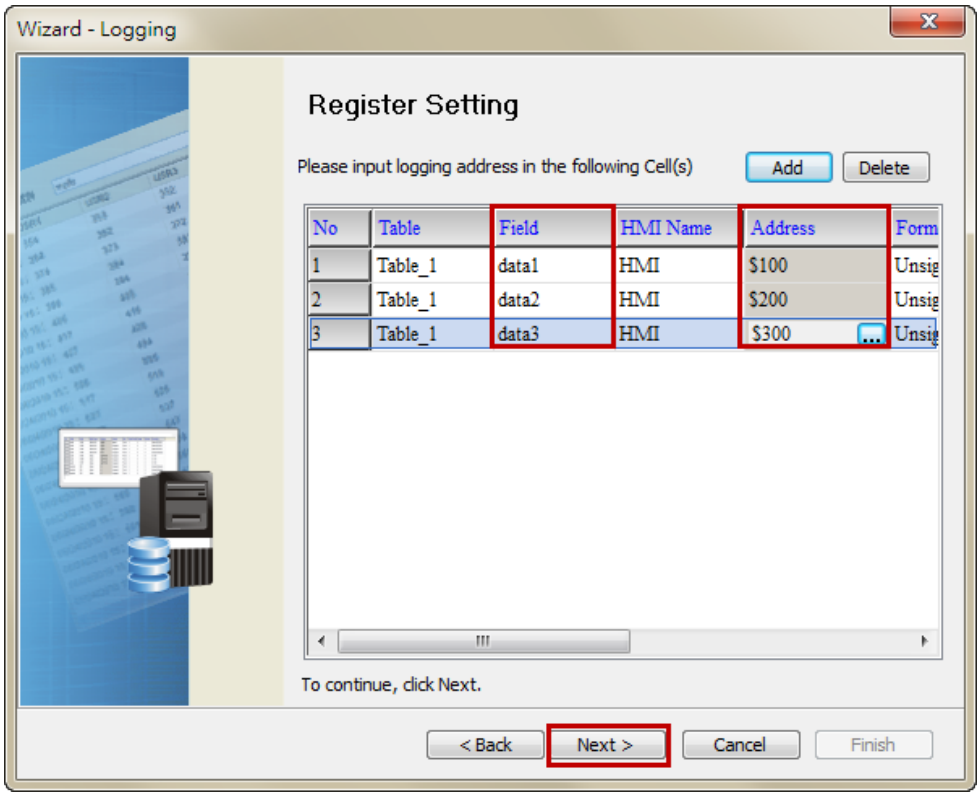
Select【Table_1】and click  to add【Table_1】to the table.

Check **Stamp** to add time and date.

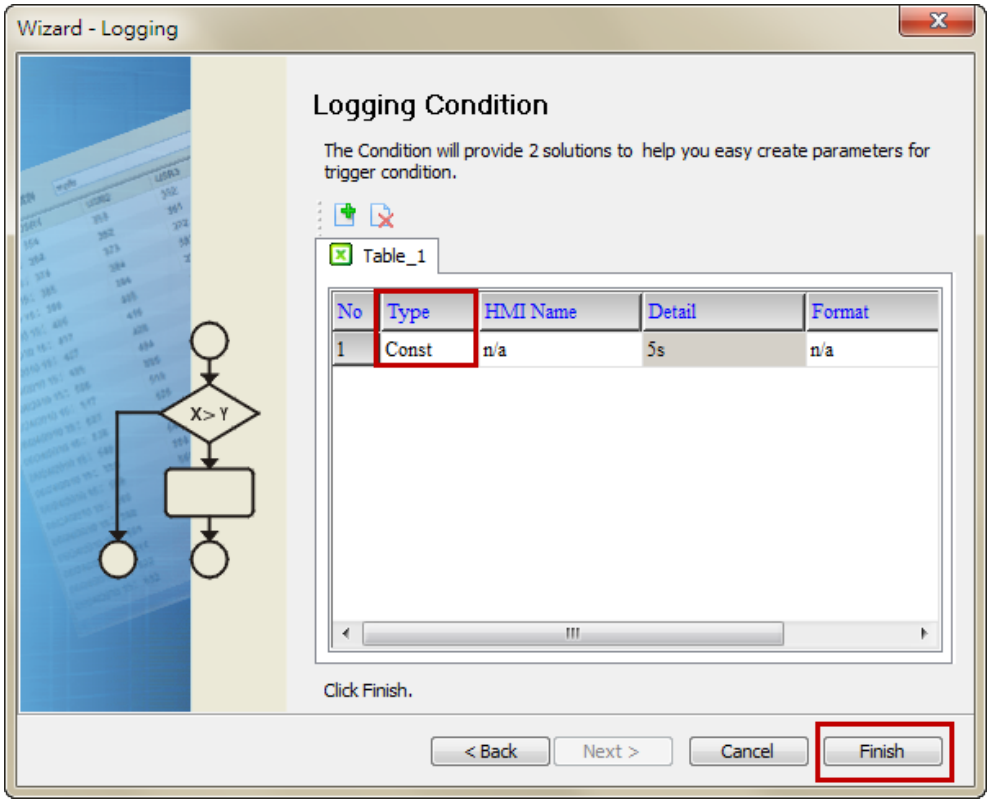
When the above setting is complete, please click【Next】.



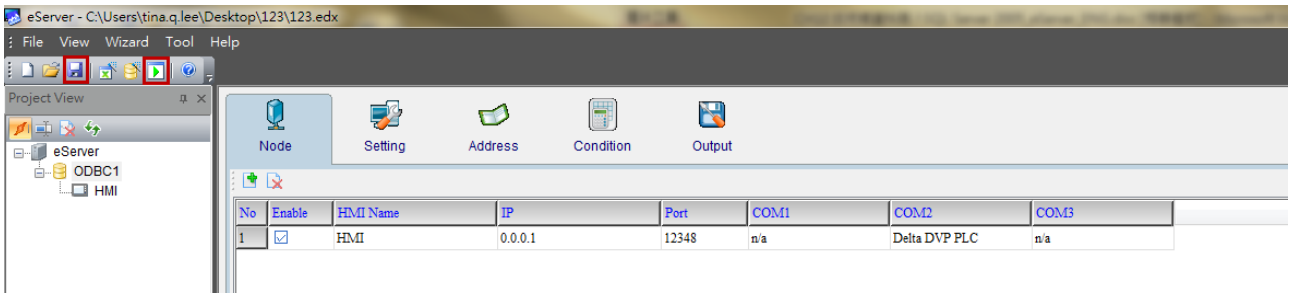
Please add the logging address ($100, $200, $300) which is set by screen project in sequence. It will correspond to the field name (data1, data2, data3) which created by SQL Server.



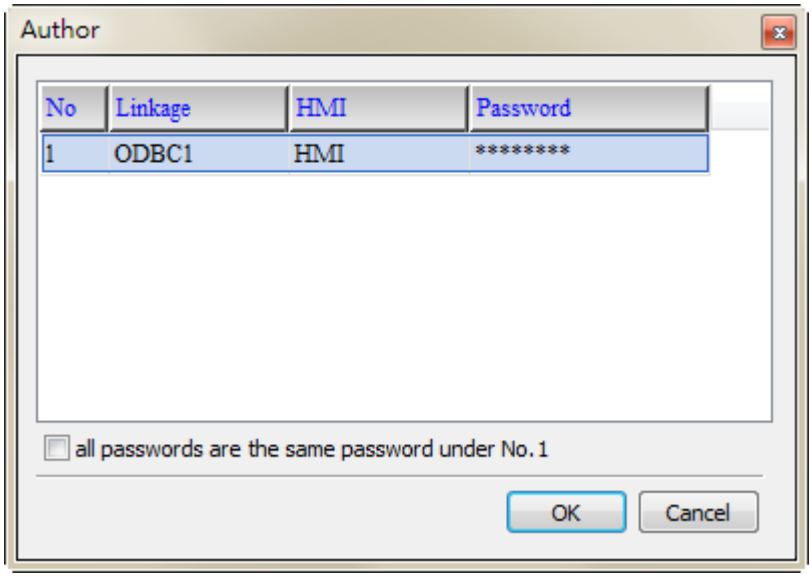
Please select Logging Condition. In this example, select【Const】 type as the conditional parameter. Click【Finish】to exist Logging Wizard.



Click【save  】 first then click【execute  】.

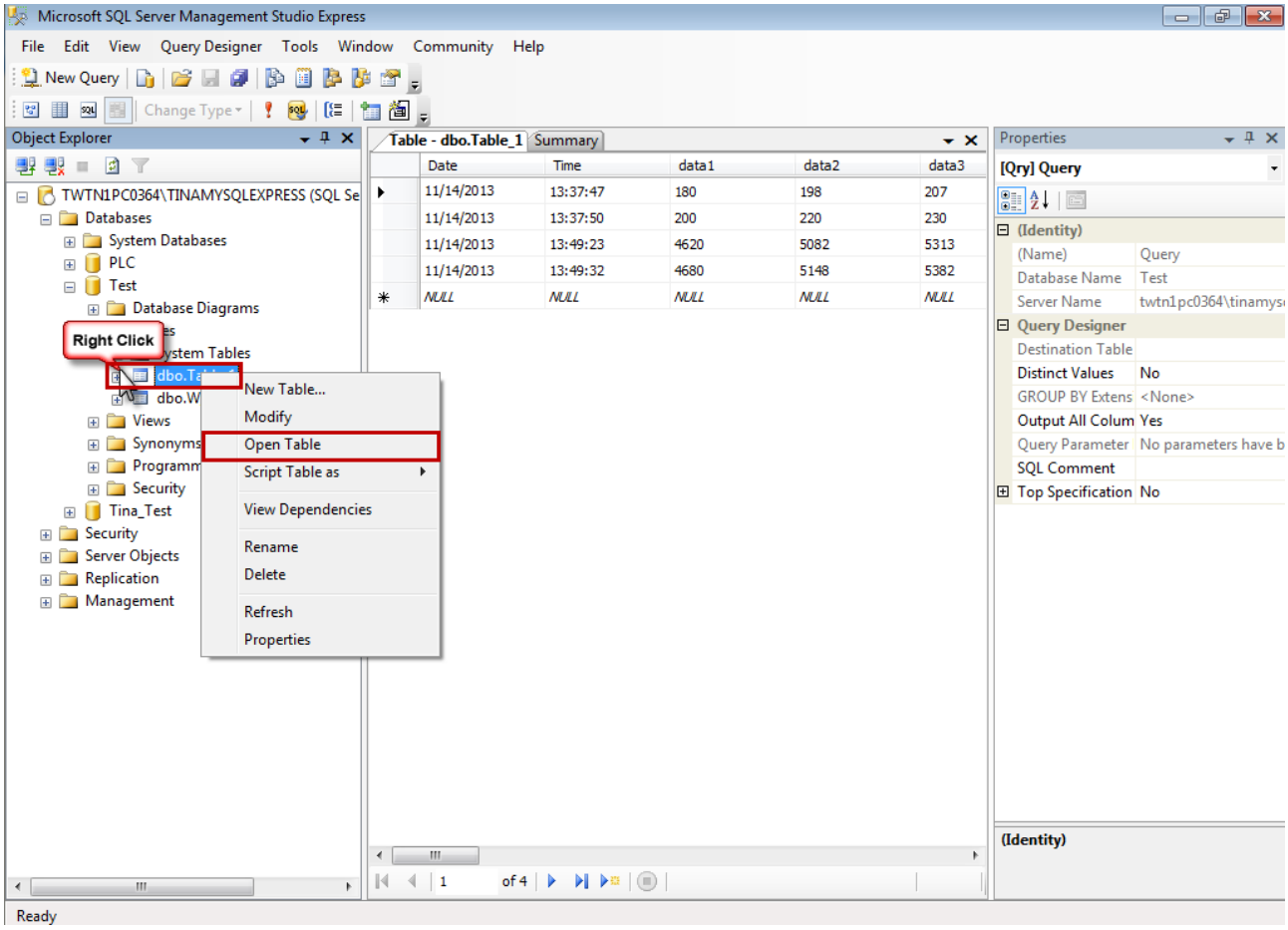


Please enter the password to activate eServer. The default number is 12345678.



10.1.4 View Data from SQL Server 2005 Database

Go to SQL Server Management Studio Express, right click Table_1 and select【Open Table】, which shown as below. Users can view the acquired data.



Chapter 11 Writing Data in Oracle

Before creating testing example, make sure to change the upload and download option (**Options > Environment**) on DOPSoft first. The default setting of upload and download is via **USB**. If the users need to use **Ethernet**, please change the default setting by referring to **Appendix A**.

11.1 Example

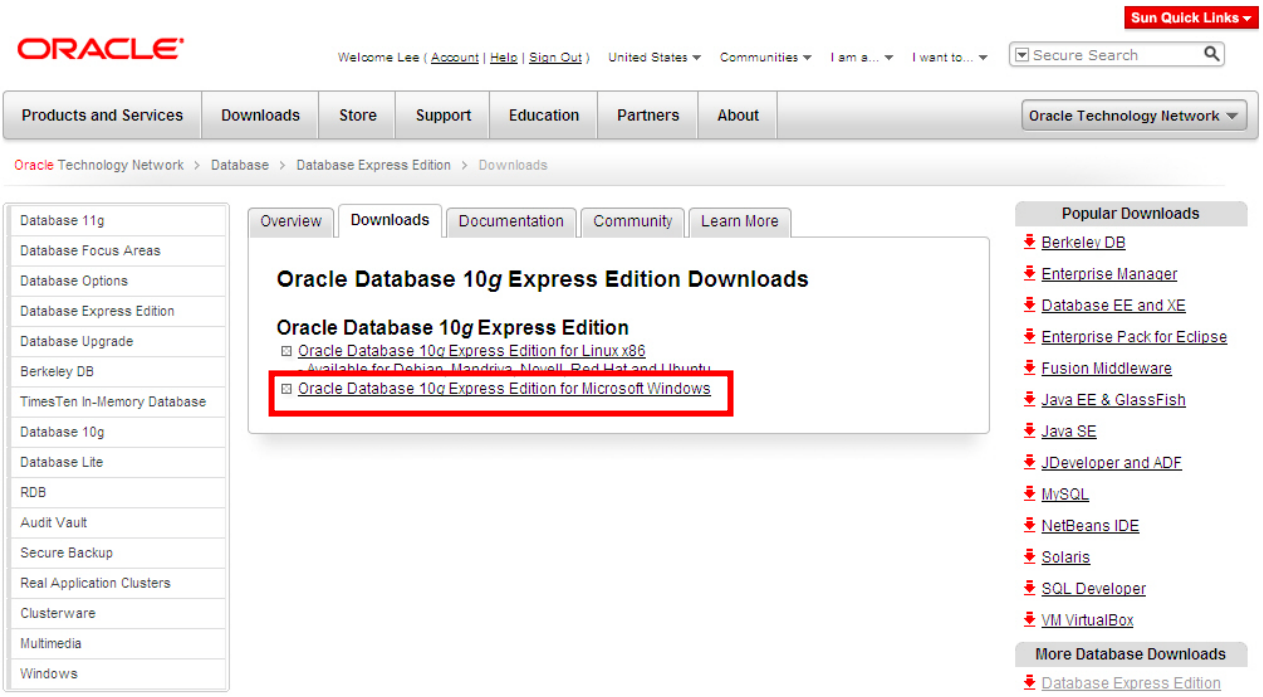
This example is used to help the users to understand how to use eServer to read the data of the register addresses $3 and $6 every second, record the data in Oracle via ODBC interface, and save the collected data into the specified folder (C:\Data).

11.1.1 Software Installation

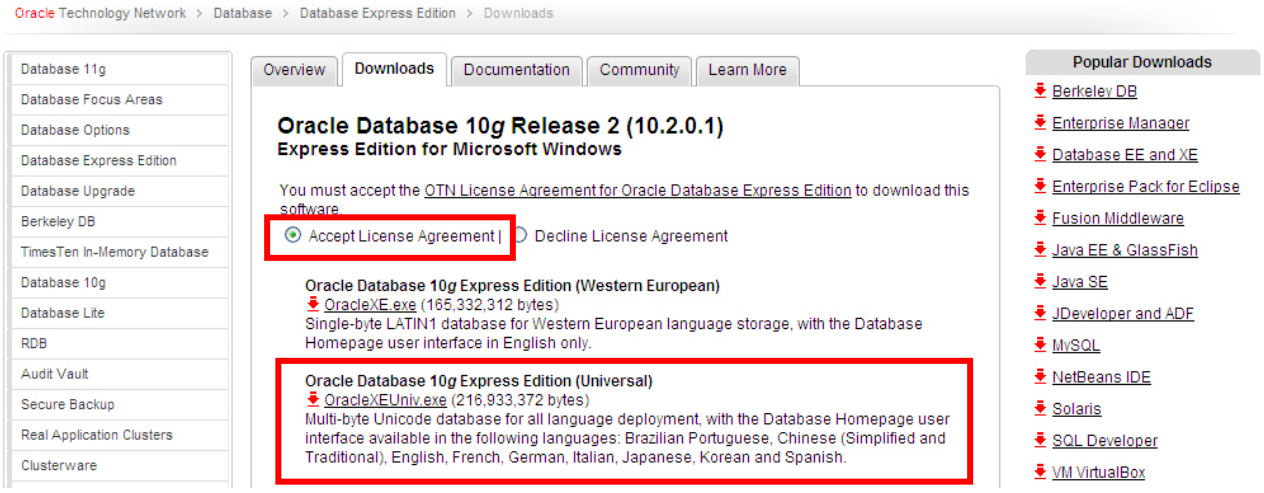
1. Oracle Introduction

   Oracle is a free and a database management system produced and marketed by Oracle Corporation. In this example, To download it, go to http://www.oracle.com/technetwork/database/express-edition/downloads/index.html.

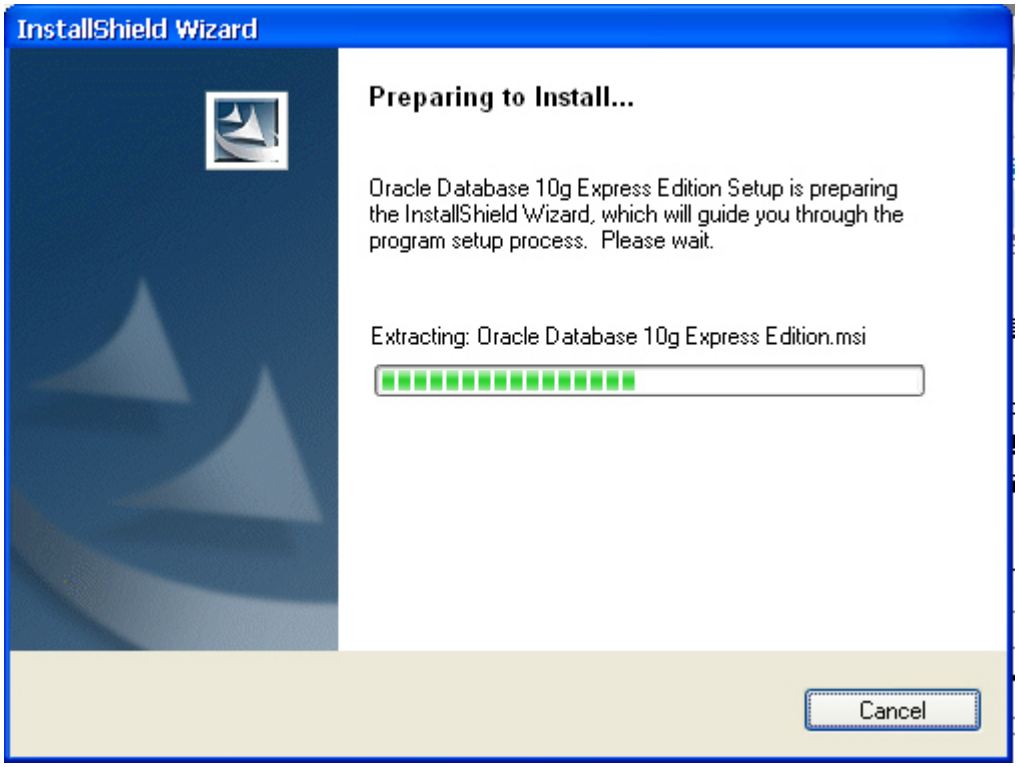
   Please be sure to select **Oracle Database 10g** for **Microsoft Windows**.

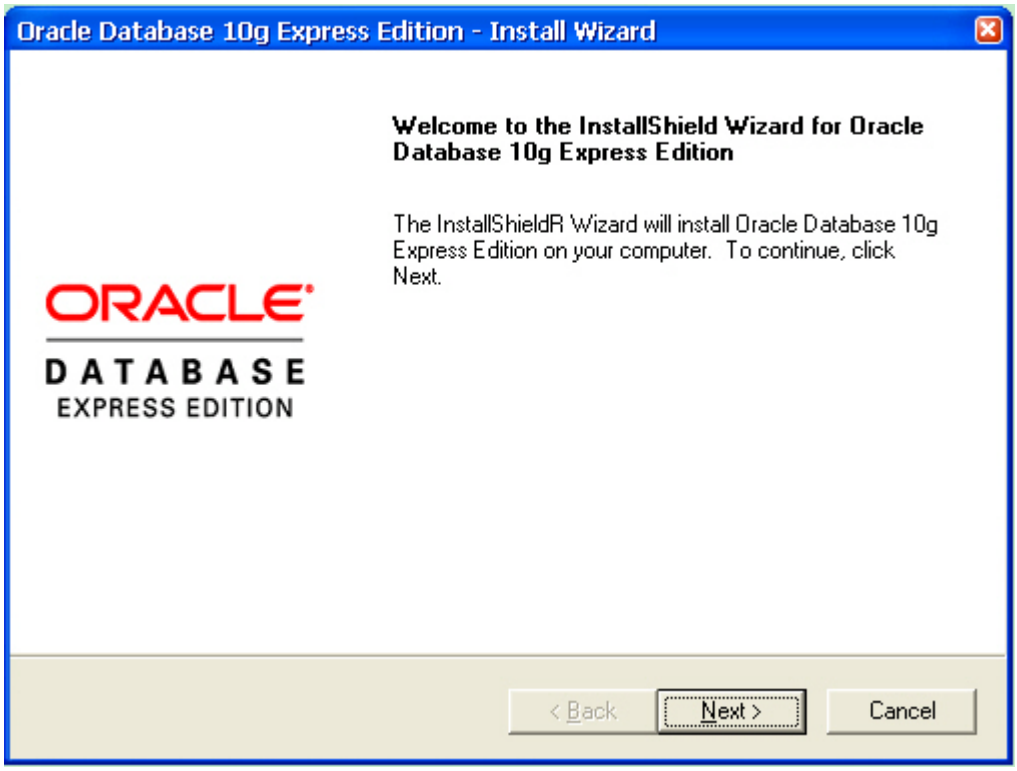


Then, accept the license agreement and download **OracleXEUniv.exe**, which is the multi-byte Unicode database for all language deployment.

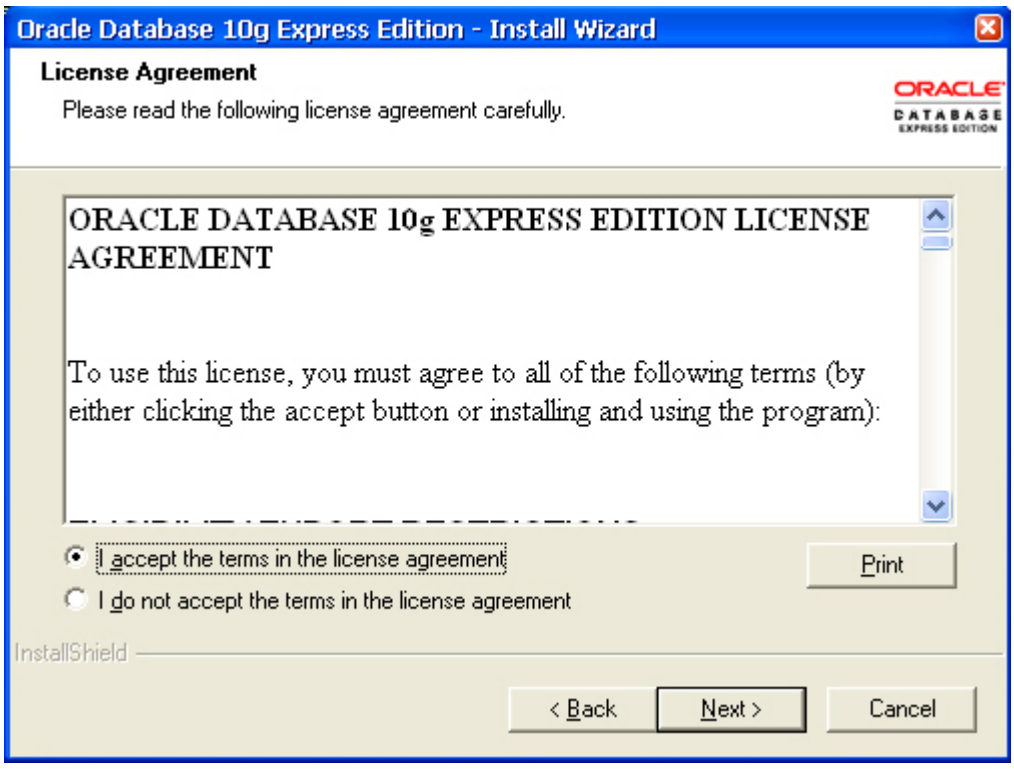


After downloading **OracleXEUniv.exe**, click on **Run** button to install Oracle.



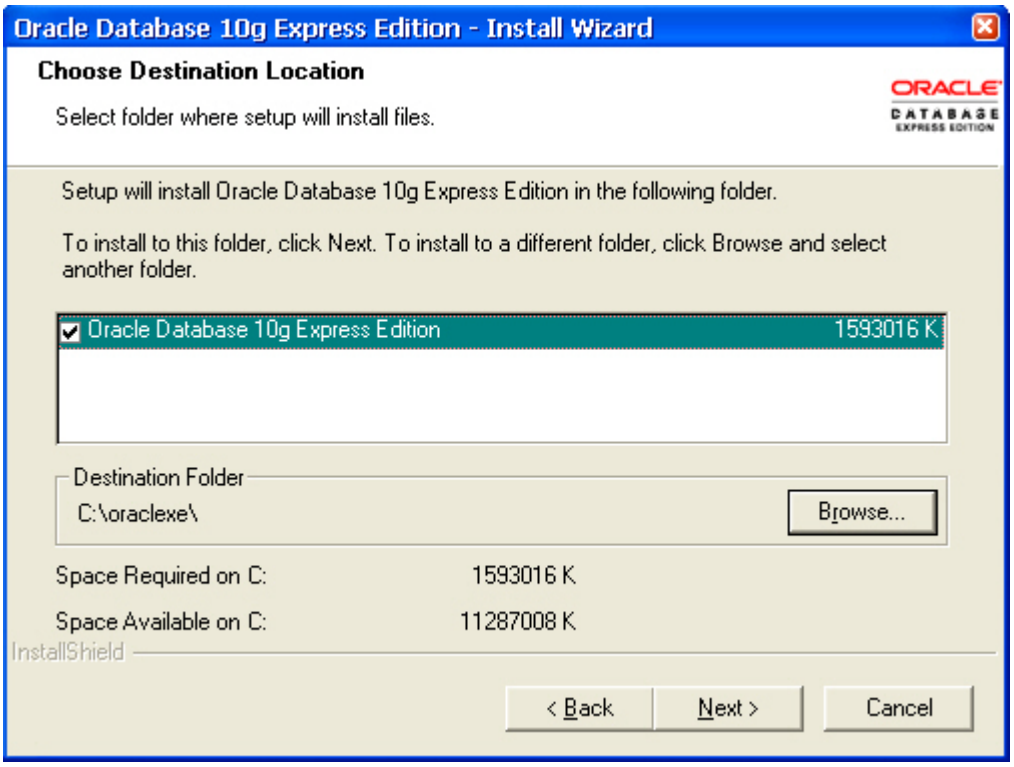


Click on **Next** button to go to the next step.



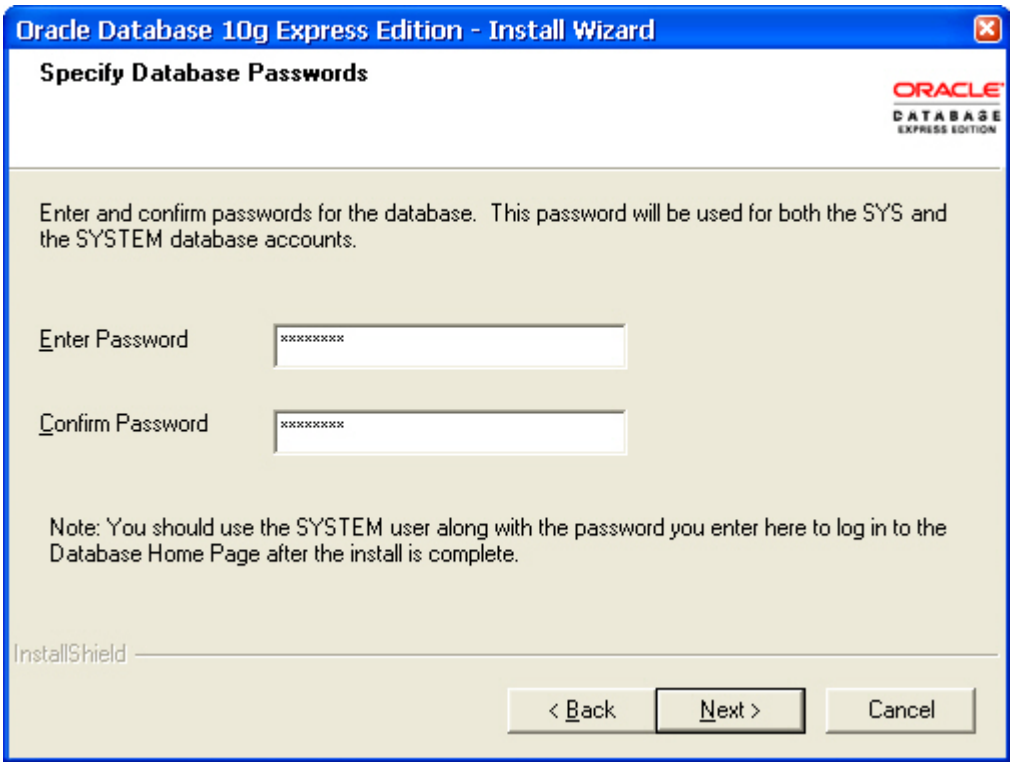
The users must read license agreement before installation. Choose **I accept the terms in the license agreement** to continue.

Click on **Next** button to go to the next step.



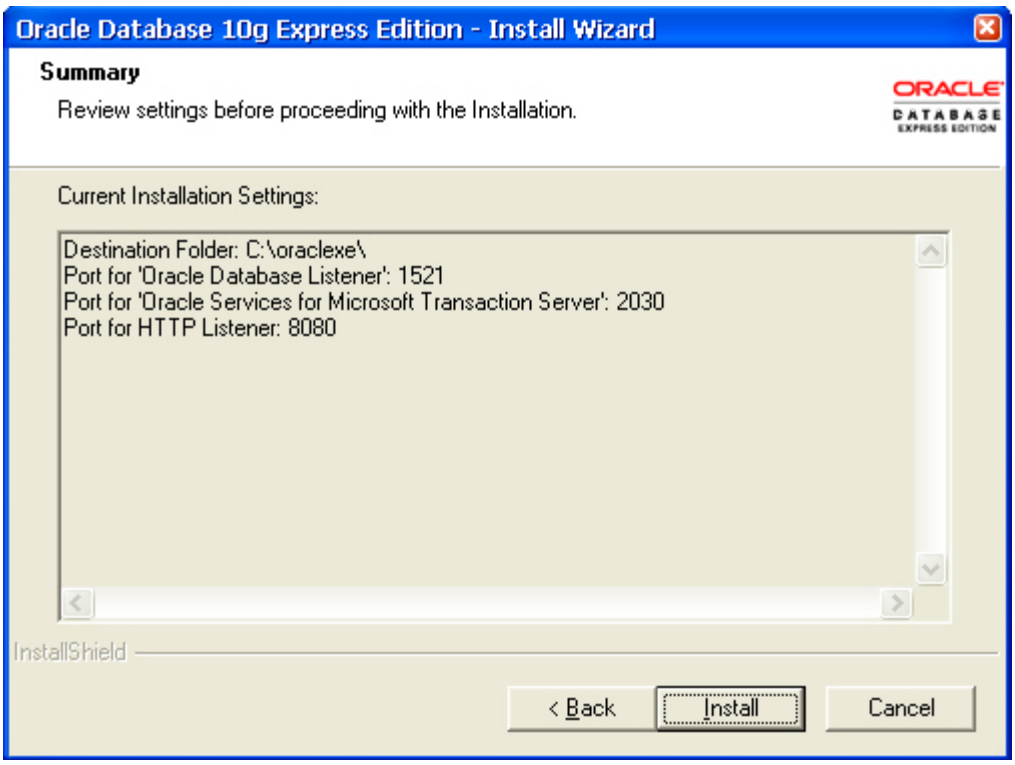
Select the default directory C:\oraclexe, and click on **Next** button for the next step.

To select a directory other than the default directory, click **Browse**.



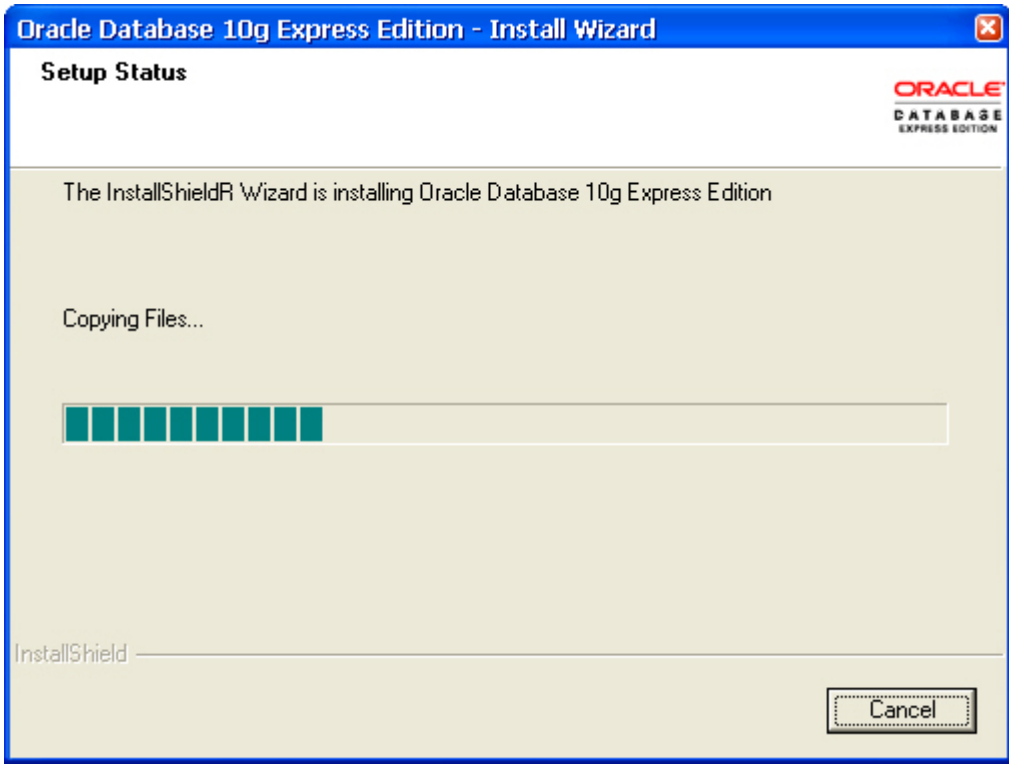
Then, enter and confirm the password for the database.

Click on **Next** button for the next step.

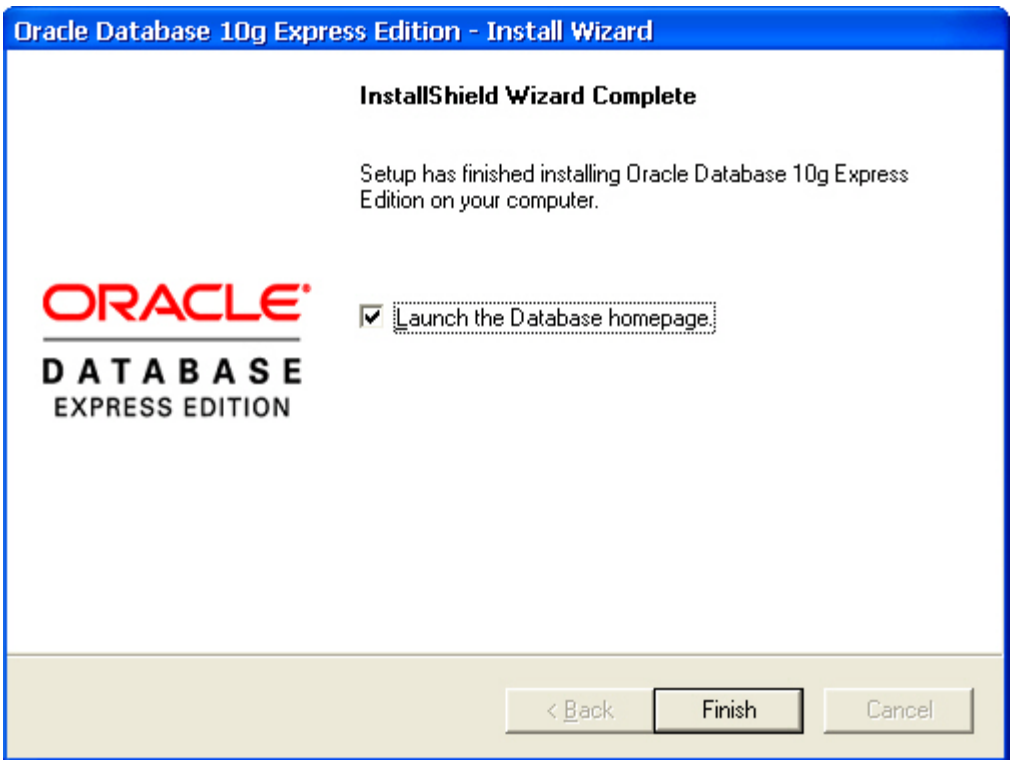


The users can review the settings before proceeding with the Installation.

Click on **Install** button to installing **Oracle Database 10g**.



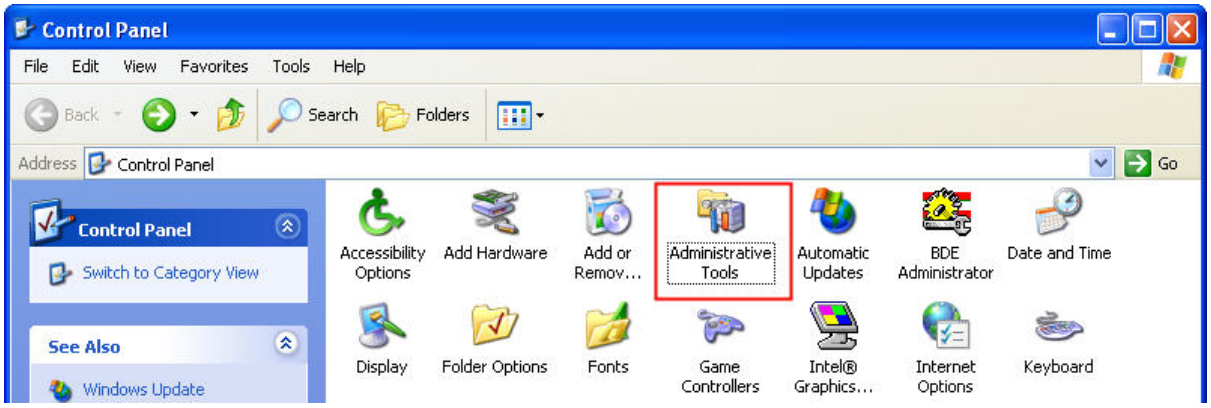
The installation wizard is installing **Oracle Database 10g**.



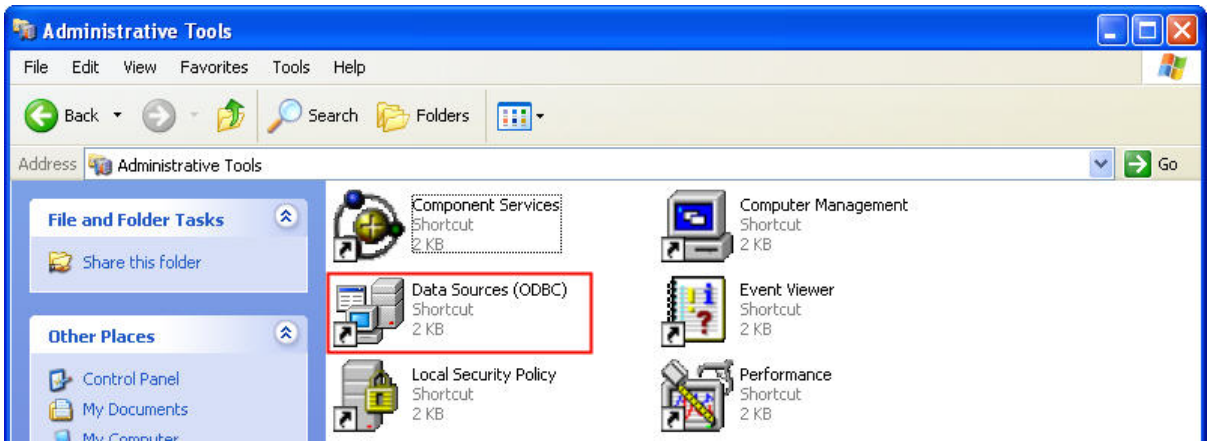
Click on **Finish** button to complete **Oracle Database 10g** setup.

2. ODBC Setup

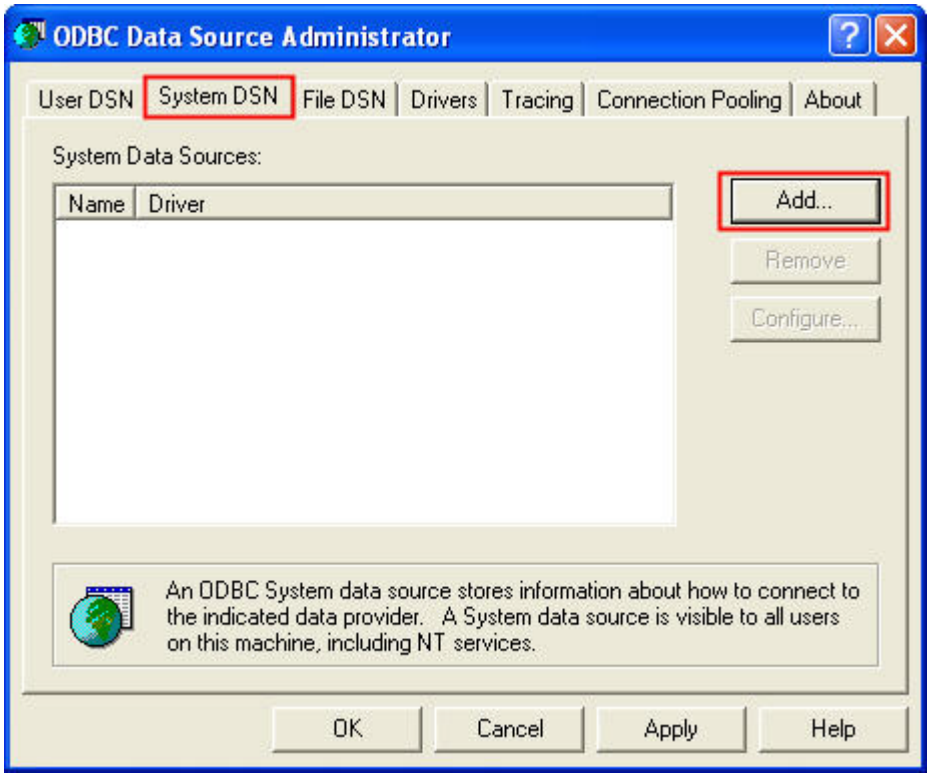
In the **Control Panel**, double-click **Administrative Tools**.



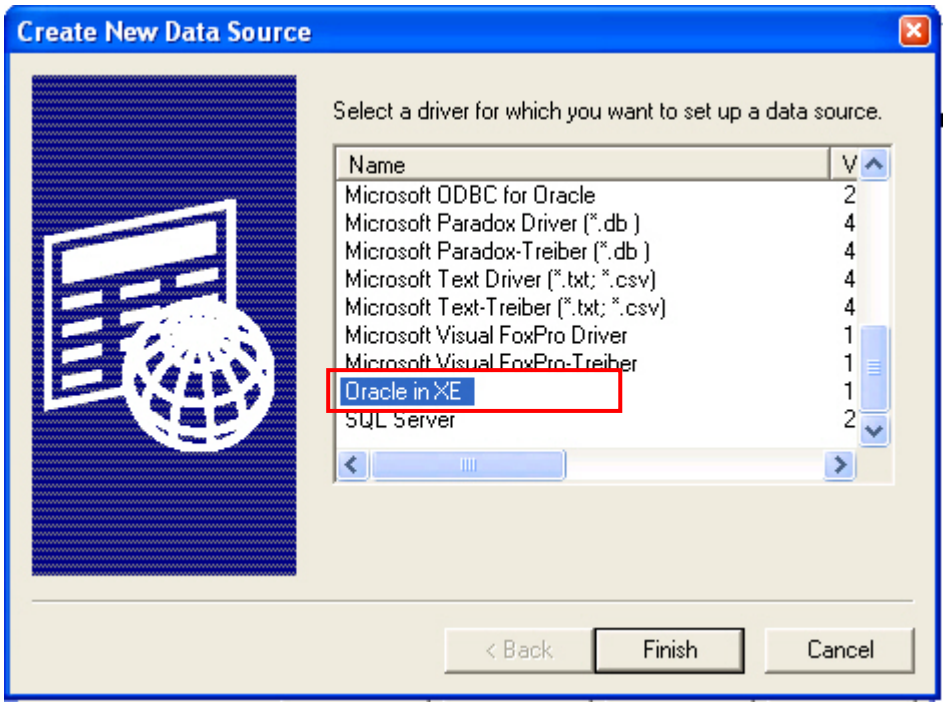
In the **Administrative Tools**, double-click **Data Sources (ODBC)**.



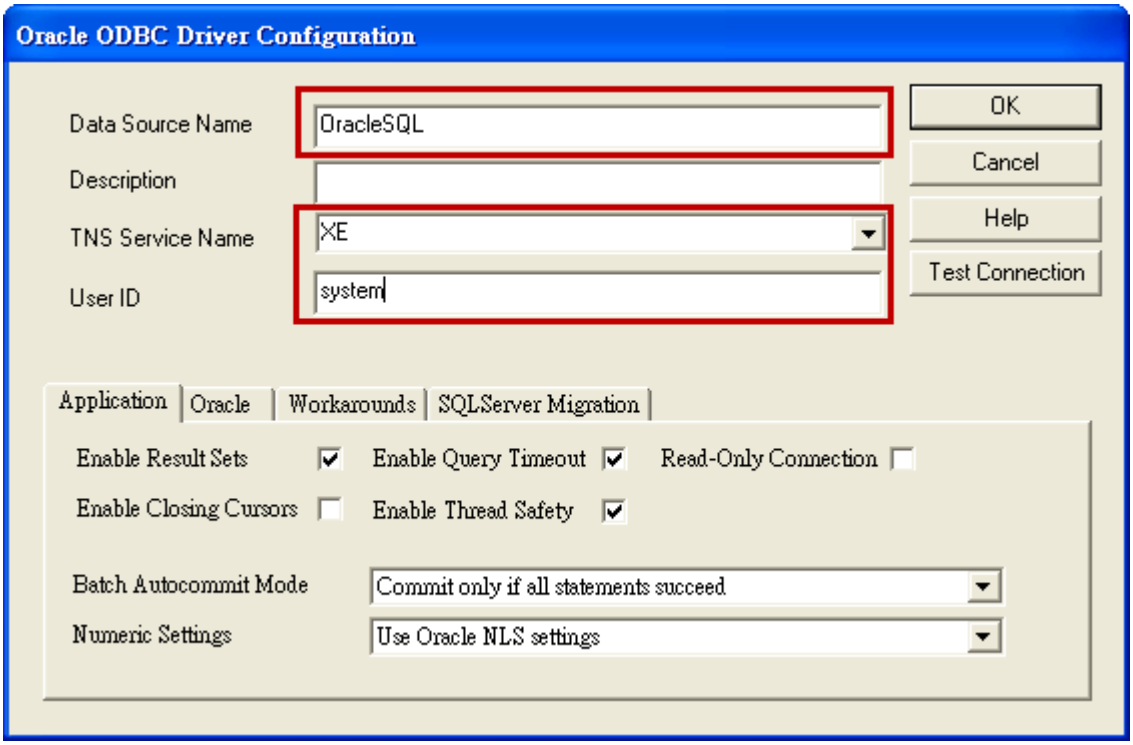
In the **ODBC Data Source Administrator** dialog box, select **System DSN** tab and click on **Add** button to add system data source.



Select **Oracle in XE** and then click on **Finish** button.



Now complete Oracle ODBC Driver Configuration as mentioned in the below dialog.



Data Source Name: Enter ODBC data source name or enter the name of the data source you want to access.

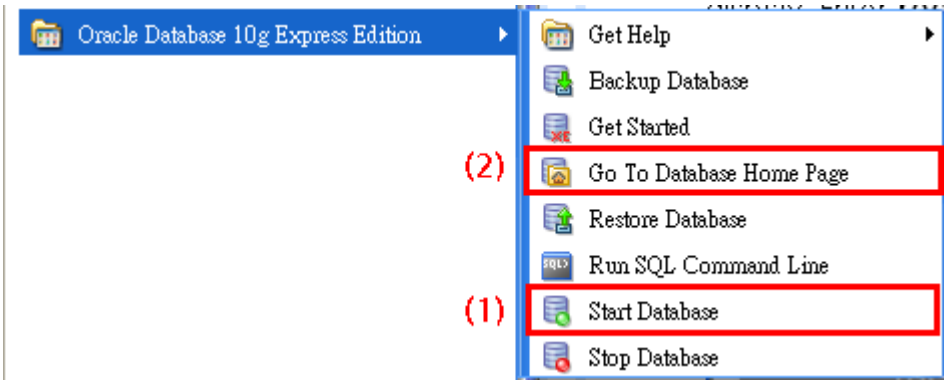
Description: Enter some text to identify the connection.

TNS Service Name: Must select **XE** in the TNS Service Name drop down list.

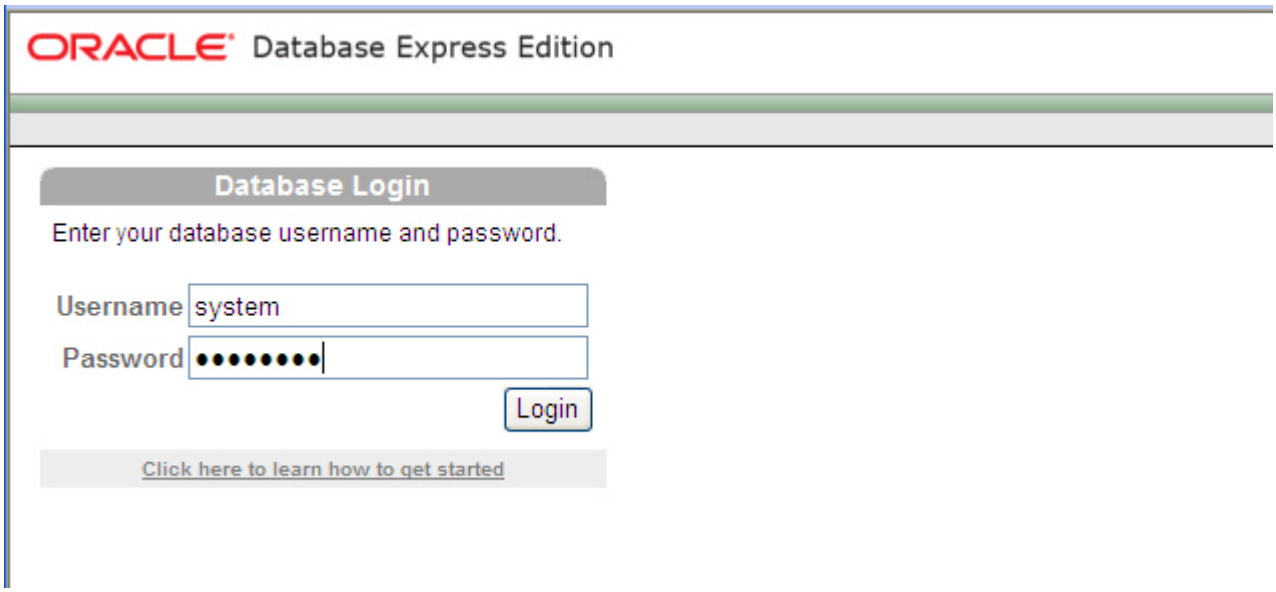
User ID: Enter user name **system** to use for this connection. This User ID is also the Username of Oracle database (see the figure below).

3. Create Database and Table

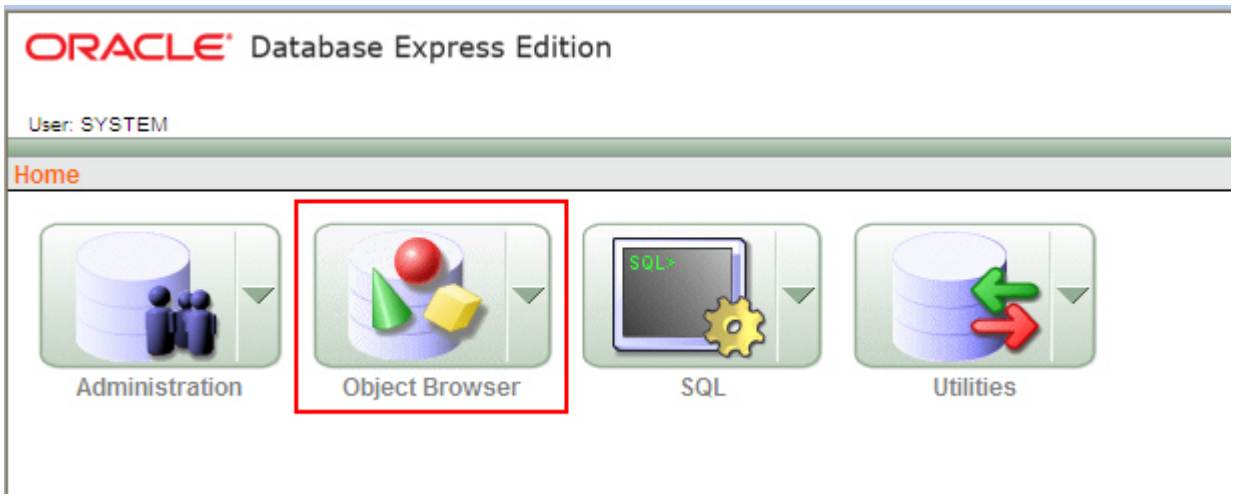
(1) Start Database (see the figure below)



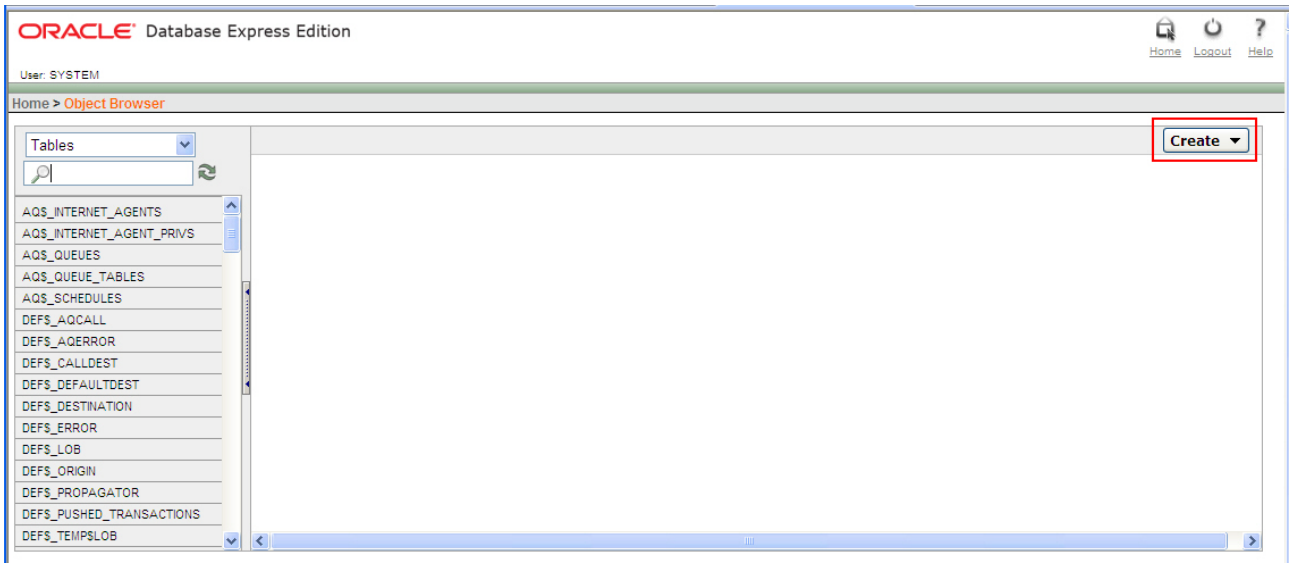
(2) Go to Database homepage.



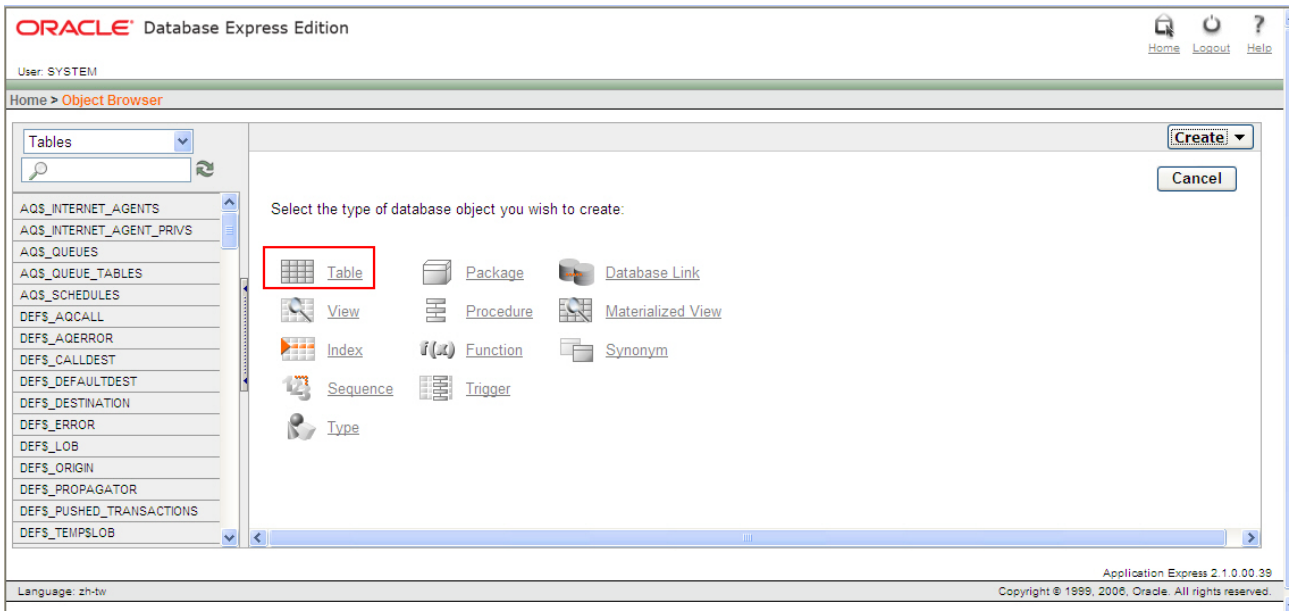
Enter username and password for the database and press **Login** button to enter into the database homepage. Then, select **Object Browser**.



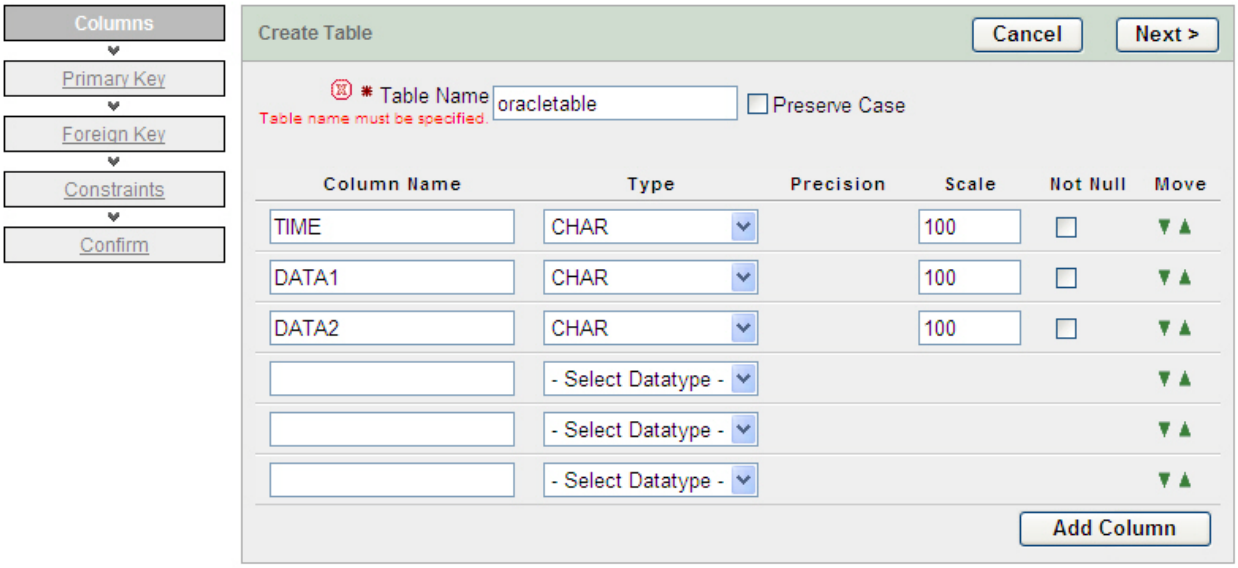
Press **Create** button.



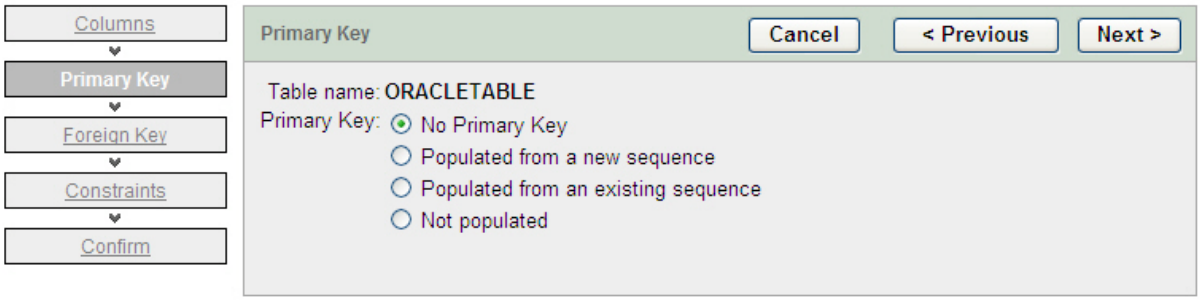
Click on **Table** link.



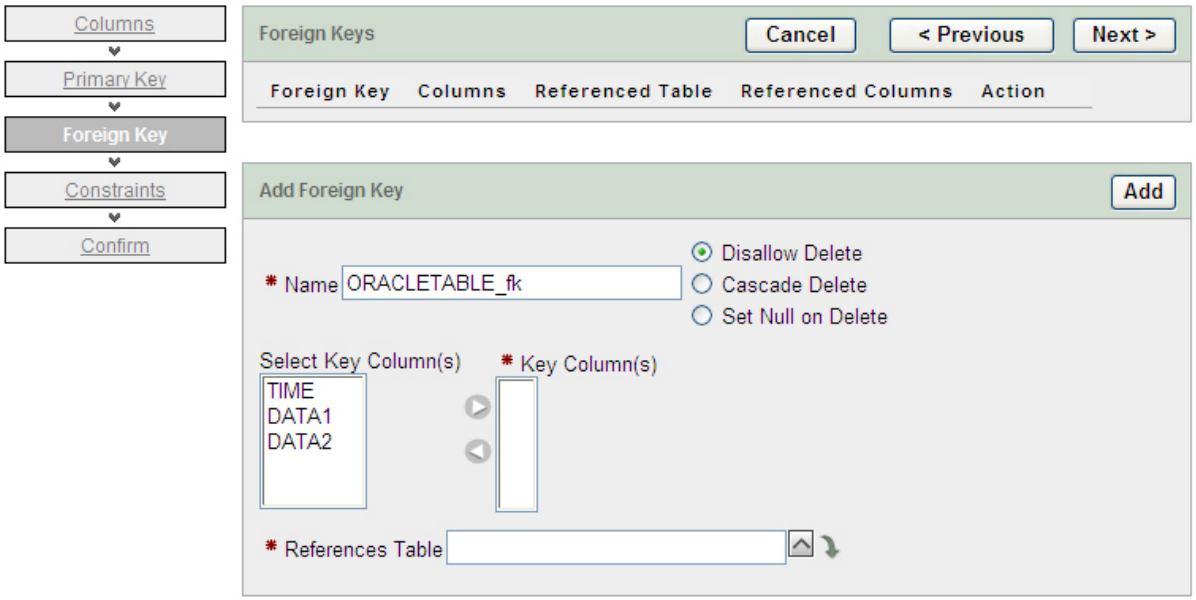
Enter the name of the table. In this case, the name of the new table is entered as **oracletable**. Create three columns: TIME, DATA1 and DATA2 and select Type as CHAR (Character). Click on **Next** button for the next step.



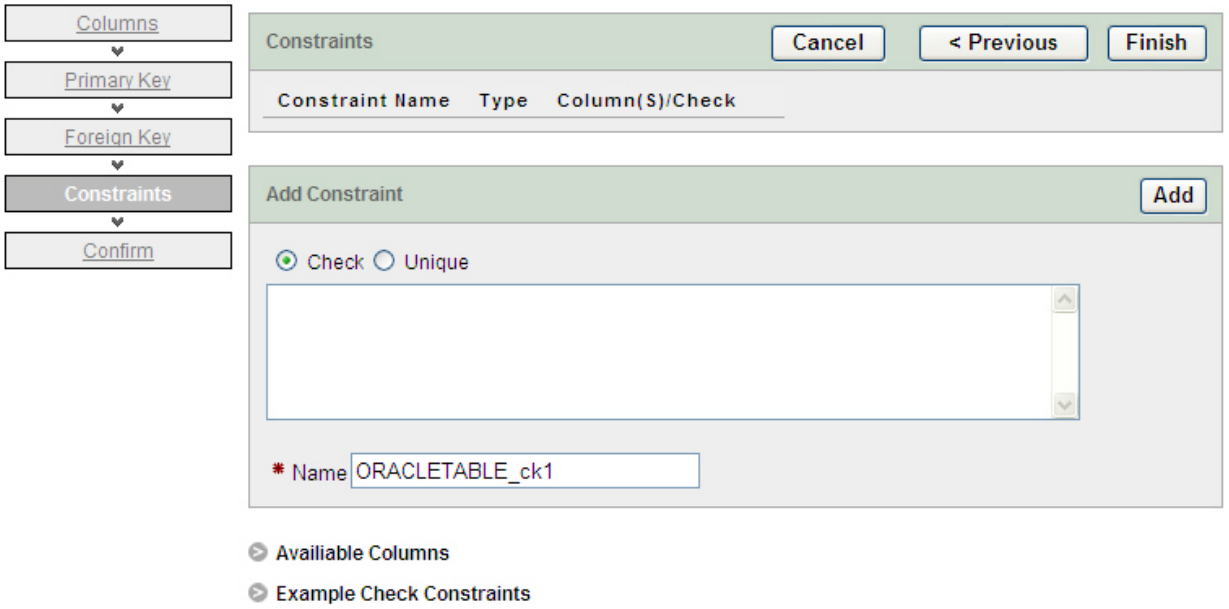
Select **No Primary Key**. Click on **Next** button for the next step.



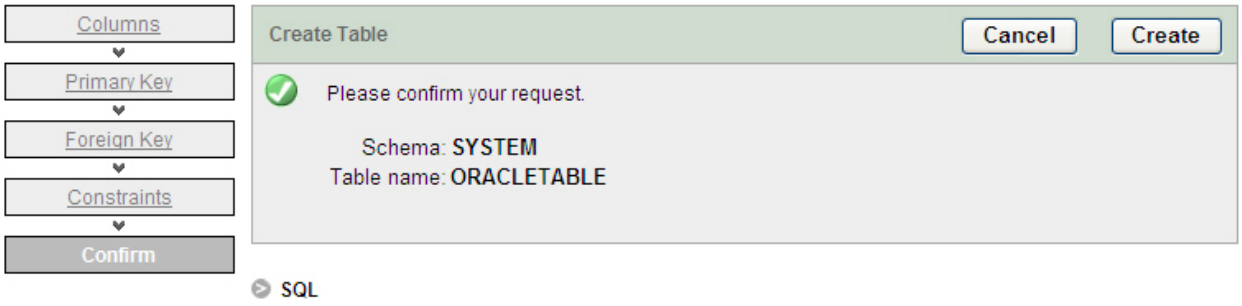
Click on **Next** button for the next step.



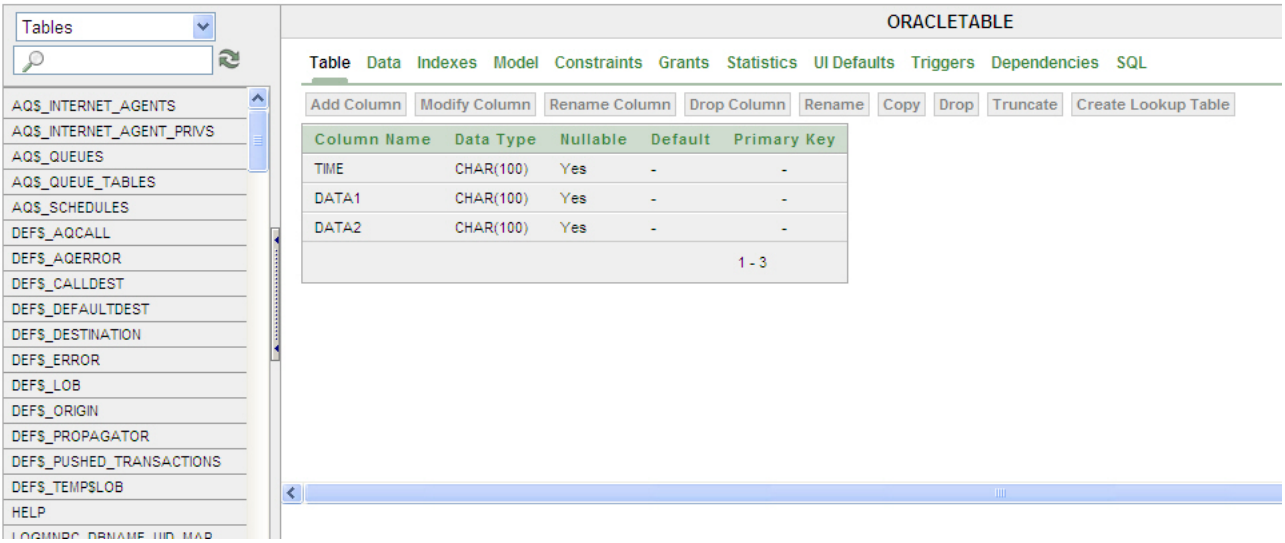
Click on **Finish** button to complete the settings.



Click on **Create** button to create a new table.

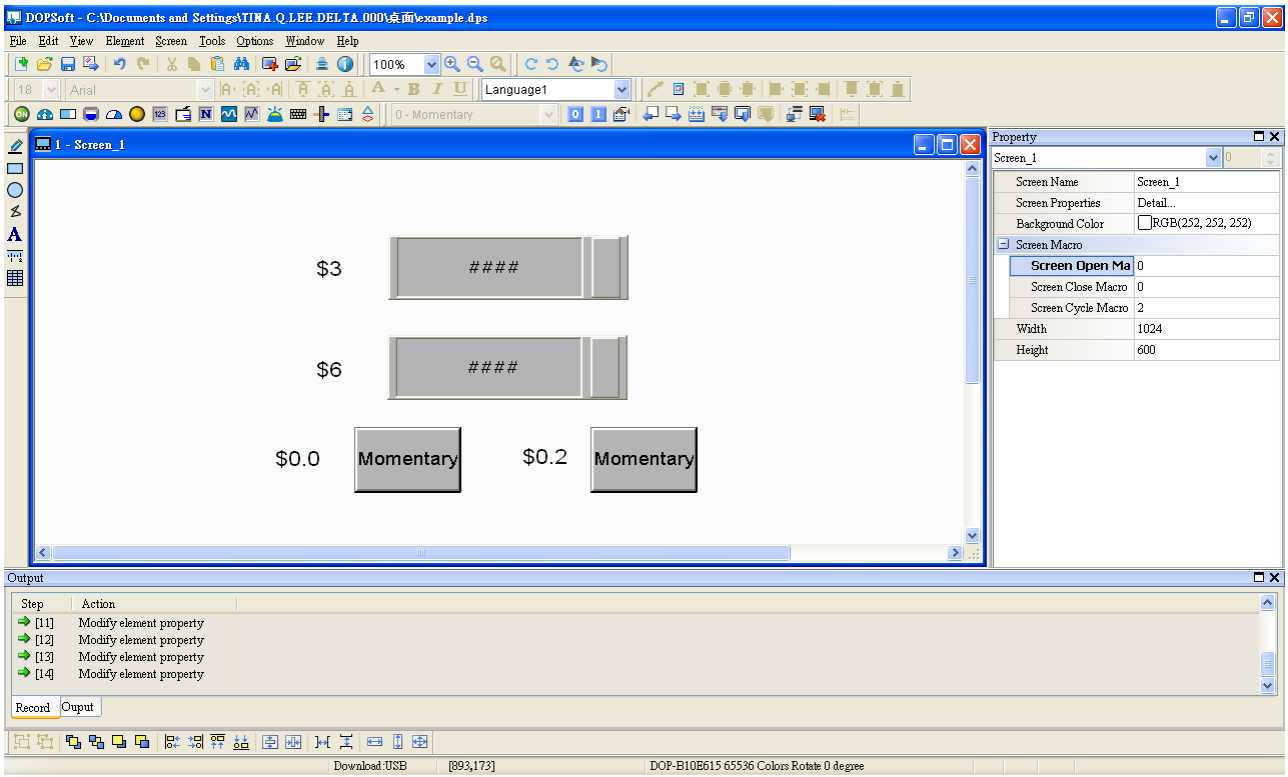


When the following figure shows on the screen, it indicates that a new table on Oracle database is created successfully.

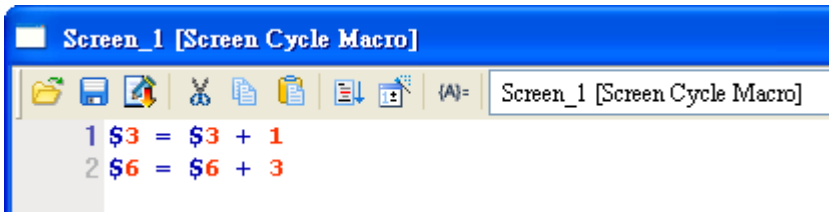


11.1.2 Create HMI Project File

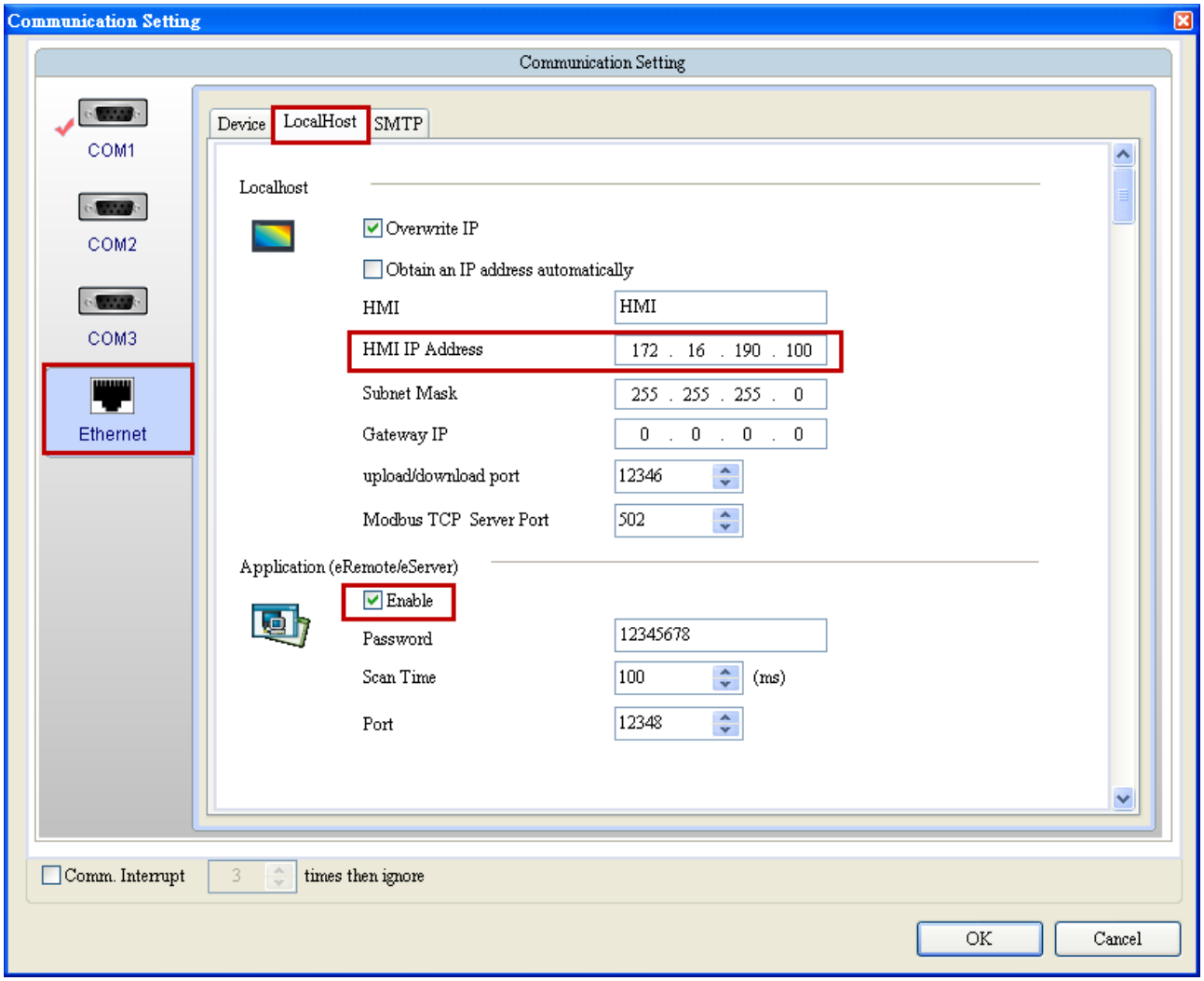
Start DOPSoft software program and click **File > New** or click **New** icon to create a new project. Then, click **Element > Input > Numeric Entry** to create two numeric entry elements ($3 and $6) and click **Element > Button > Momentary** to create two maintained button elements ($0.0 and $0.2) on the screen. In this case, 10 inches color B10E615 type DOP series HMI is used.



Use Screen Cycle Macro and enter the following commands in macro command window.



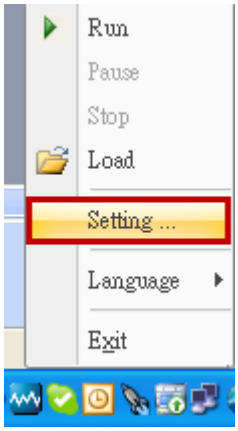
Click **Options > Communication Setting > Ethernet > LocalHost,** set HMI IP Address and check the Application(eRemote / eServer) function **Enable.** Then, press **OK** button to finish the settings.



11.1.3 eServer Setting

1. After eServer is enabled, eServer  icon will appear at the bottom right of Windows screen.

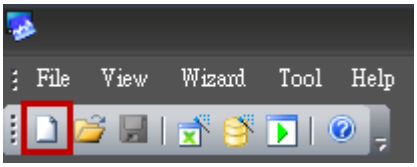
   Right-click this icon and select **Setting** option from the pop-up menu.



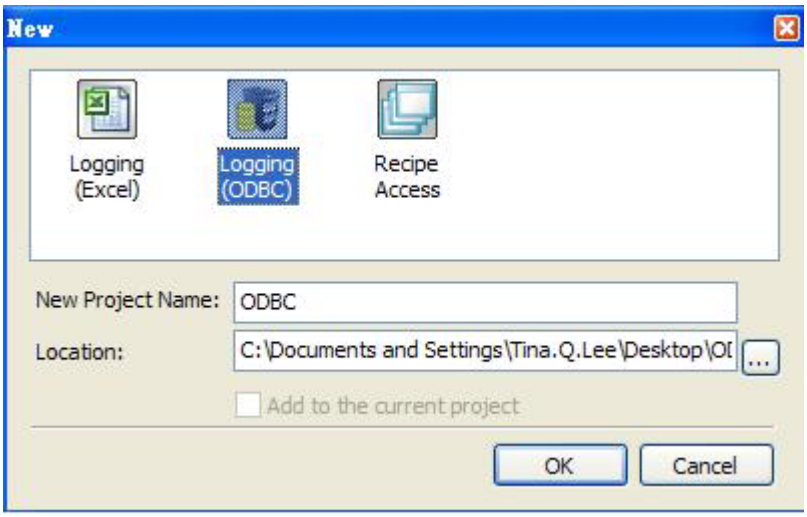
2. Then, open eServer window.



3. Click **File > New** or click  icon to create a new project file.



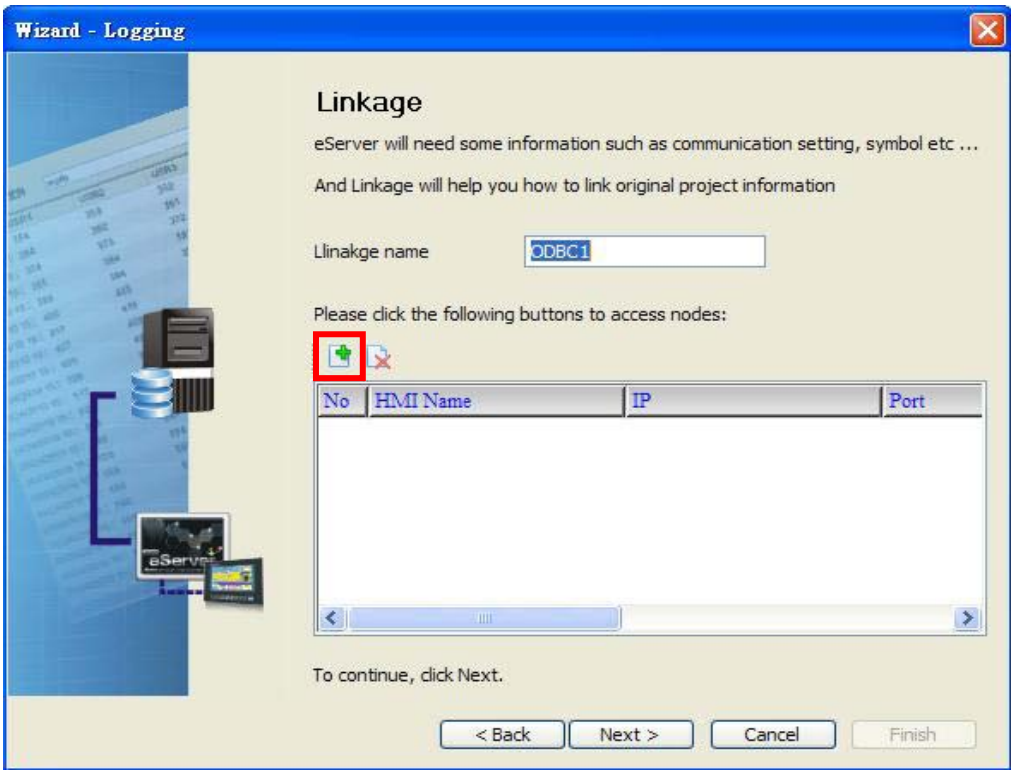
4. Select  icon to enable ODBC Logging Wizard.



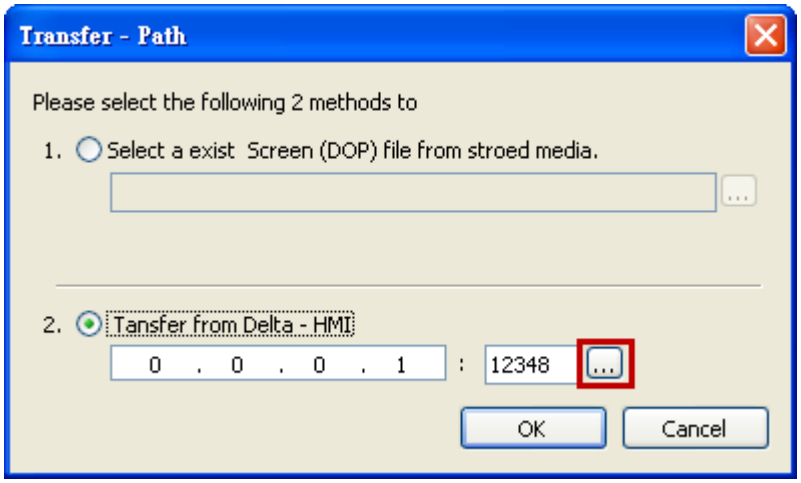


Press **Next** button to go to next step.

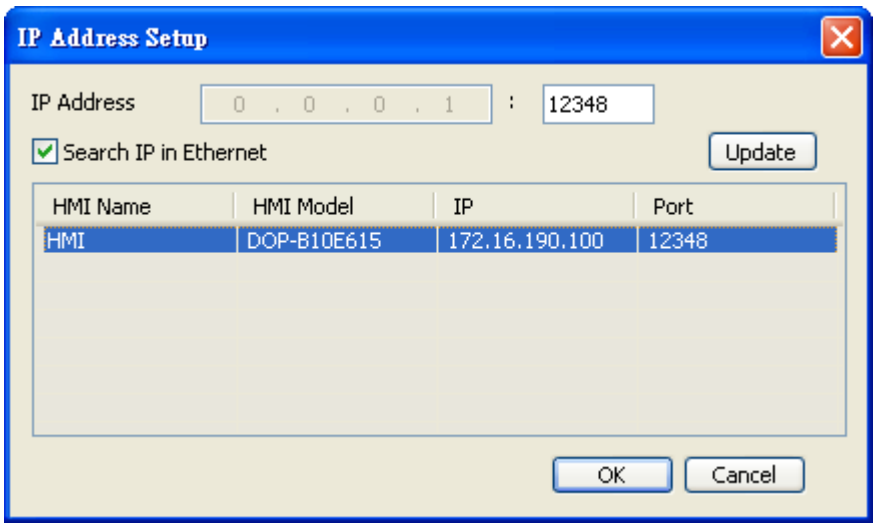
5. Click **New** icon to access nodes (link to HMI).



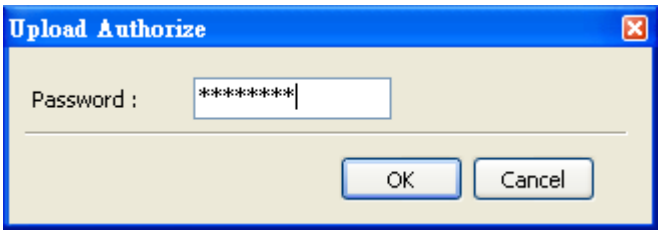
Choose **Transfer from Delta – HMI** option to transfer the HMI screen project file via network communication directly.



After searching HMI IP in Ethernet, select HMI Name is HMI, IP is 172.16.190.100, press **OK**.

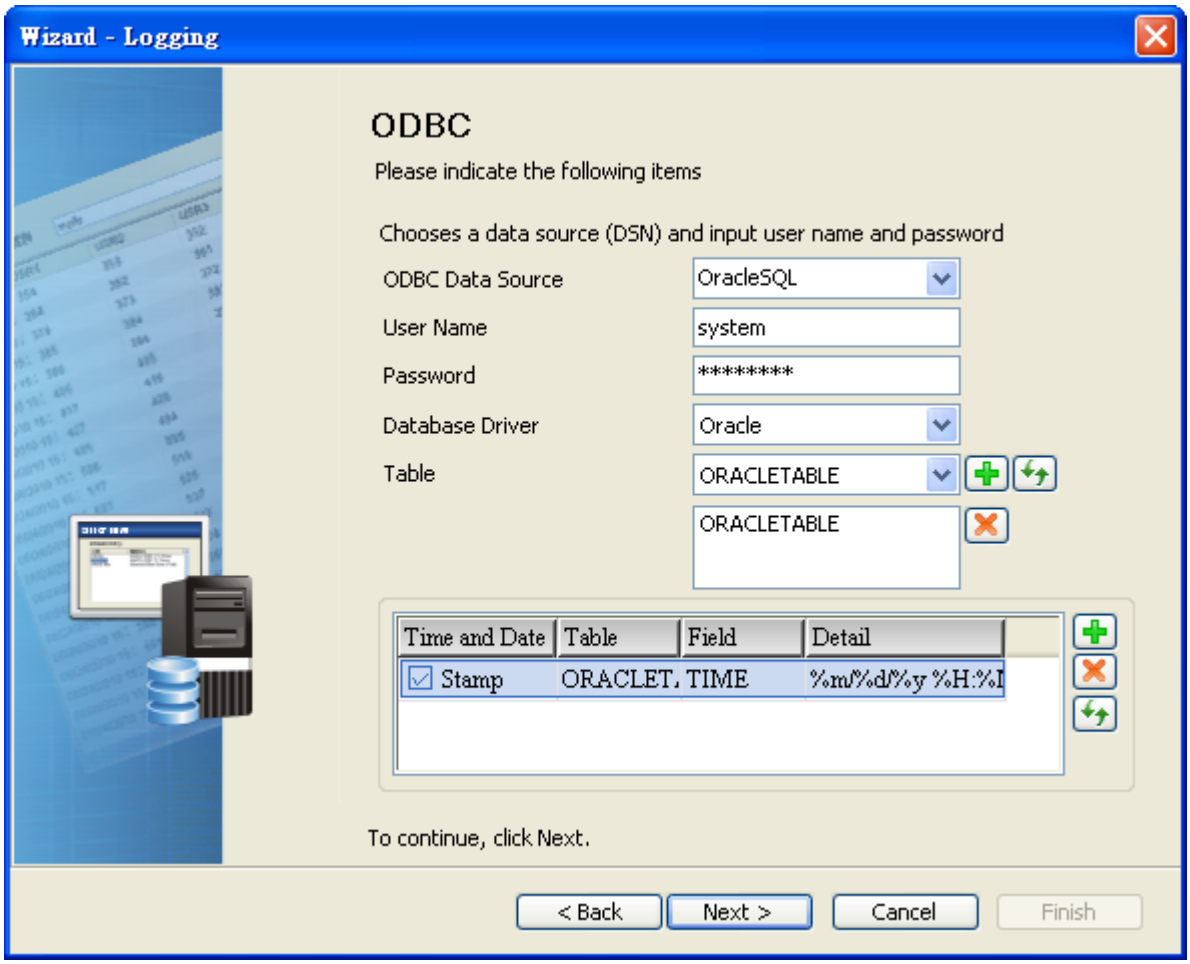


eServer will ask user to input the authorize password to connected with HMI. (The default password is 12345678.)



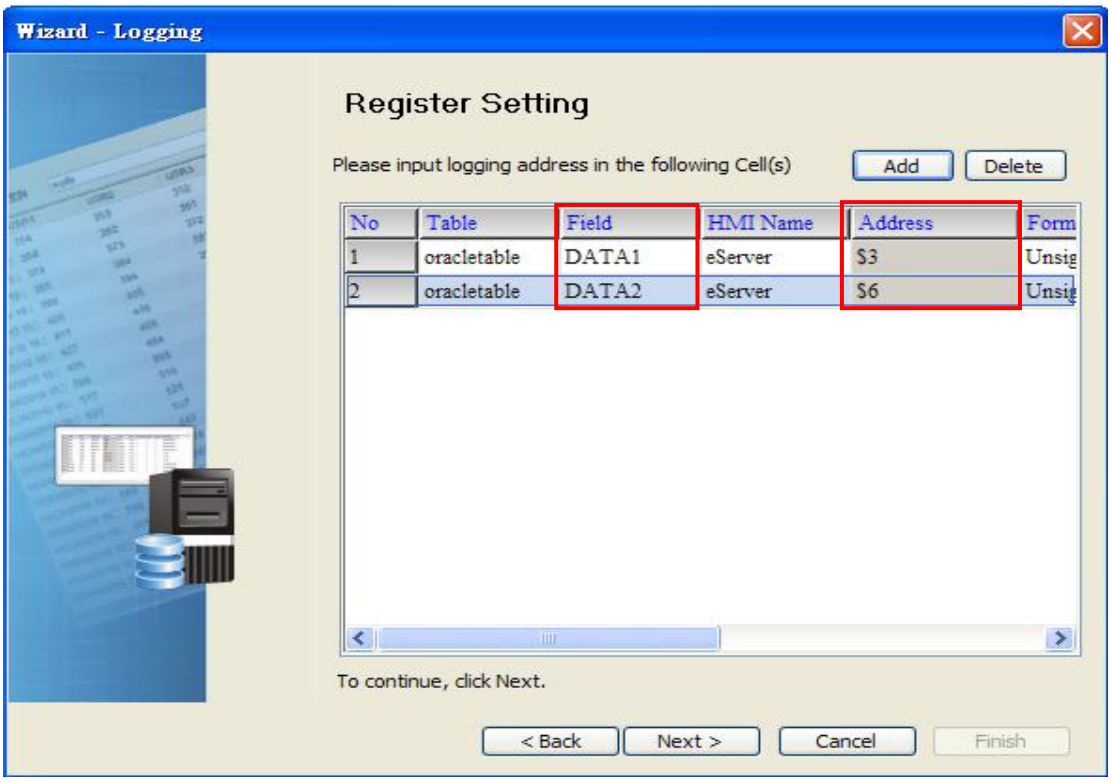
Press **OK** button to go to next step.

6. ODBC Data Source Setting: Create an ODBC Data Source pointing to your database. Please refer to the following settings and press refresh button to select table.

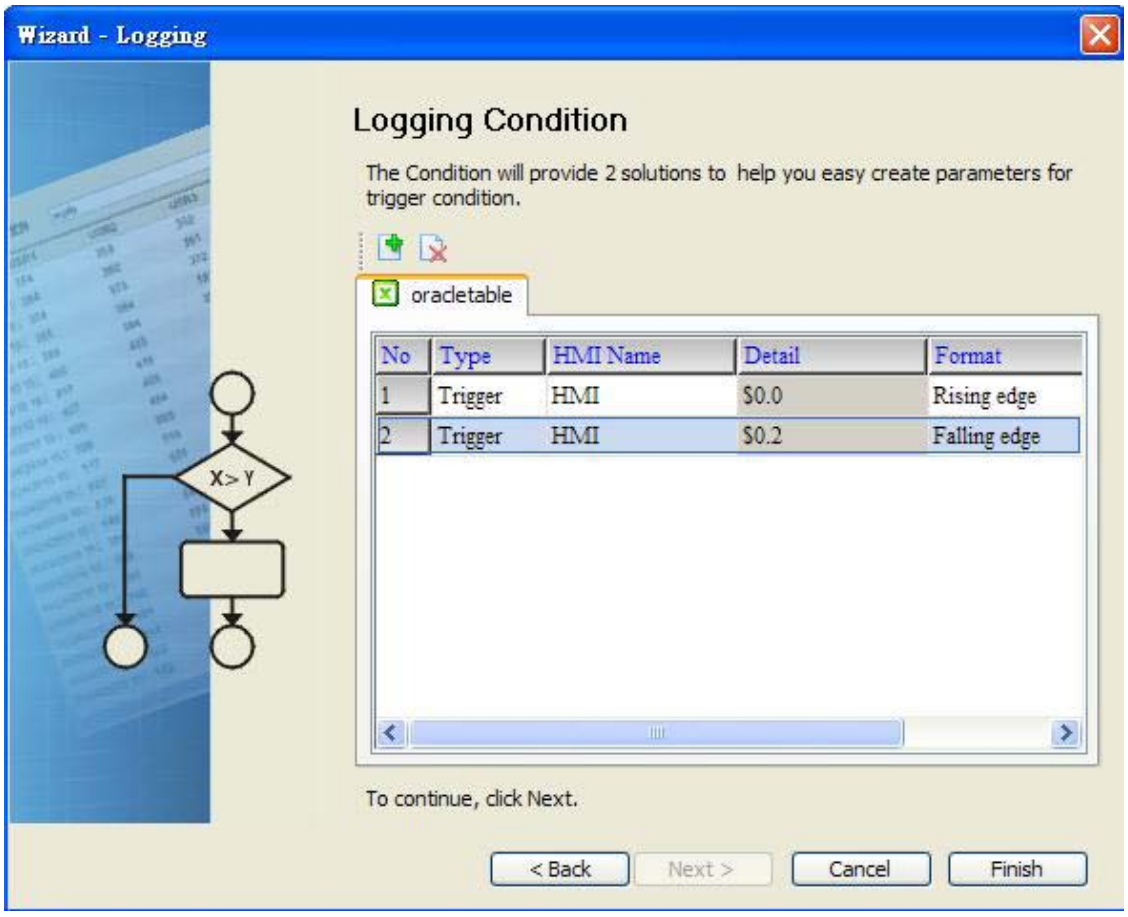


Press **Next** button to go to next step.

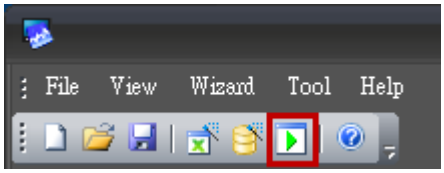
7. Register Setting: Set the register address of the sampling data.



8. Select the Type as **Trigger**. Then, set the format of address $0.0 to **Rising edge** and the format of address $0.2 to **Falling edge** respectively. Press **Finish** button to continue.



10. Press icon. After the password is entered, the system will start sampling operation, i.e. writing data in MySQL Server.

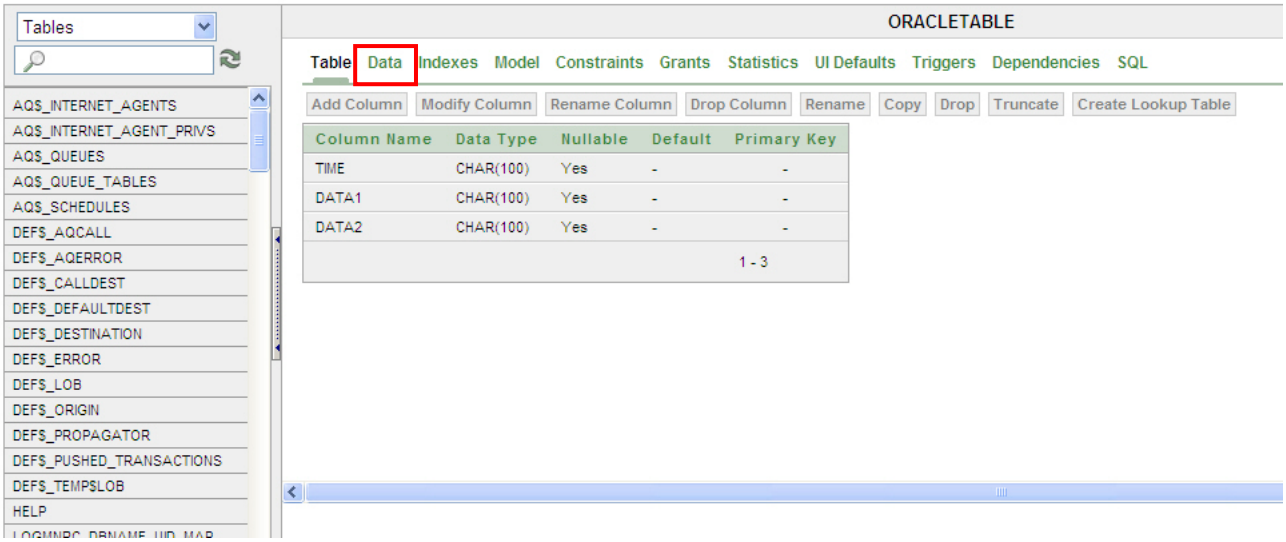




10. If the users want to pause or stop the sampling operation, only right-click eServer icon at the bottom right of Windows screen and select Pause or Stop option from the pop-up menu, the sampling operation will pause and stop immediately.



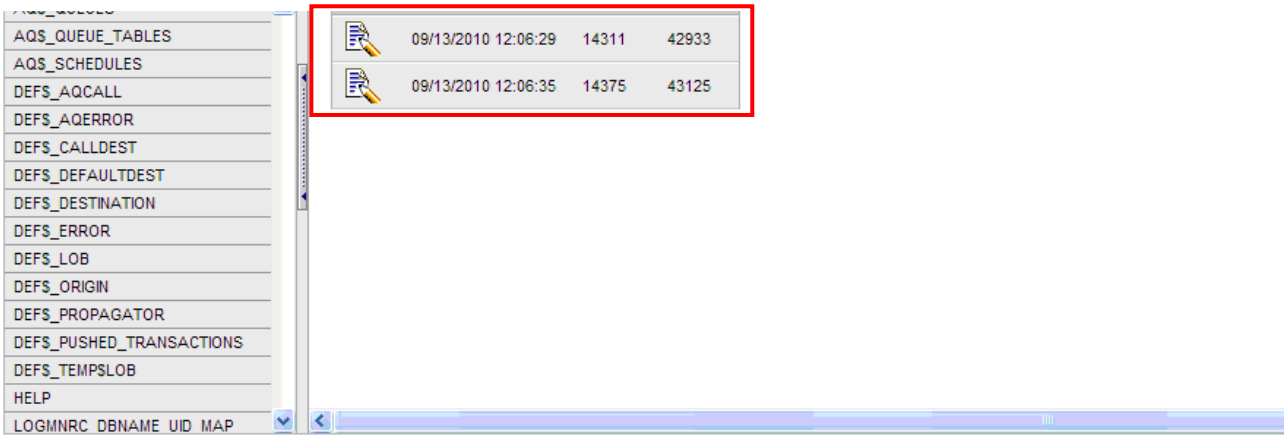
11. Open the browser and go back to the Oracle database. Click on **Data** link.



There are two recorded data shown on the screen.

When **Rising Edge** button ($0.0) on HMI screen is pressed, the writing operation will be triggered and the system will write the first data into the database.

When **Falling Edge** button ($0.2) on HMI screen is pressed, the writing operation will be triggered and the system will write the second data into the database.



Chapter 12 Recipe Access Setting

12.1 Detailed Settings

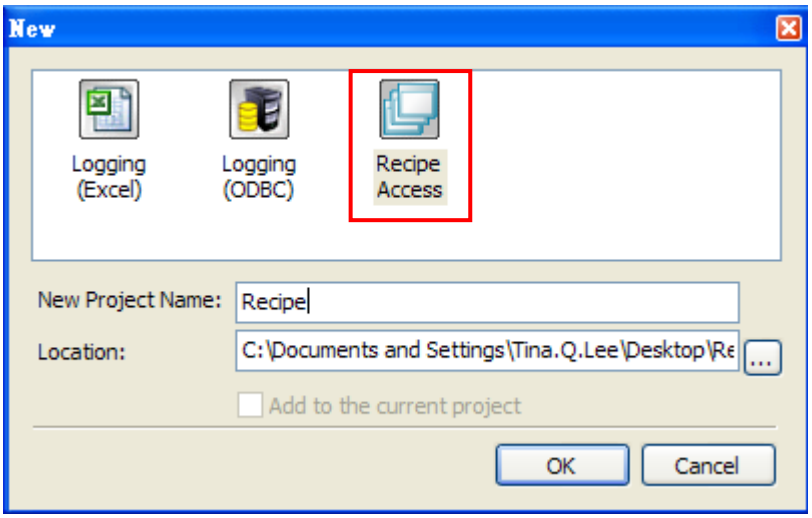
Please refer to the following steps to complete Excel sampling setting, i.e. how to log data from HMI to Excel.

12.1.1 New Project

Start eServer, and click **File > New** or click **New** icon

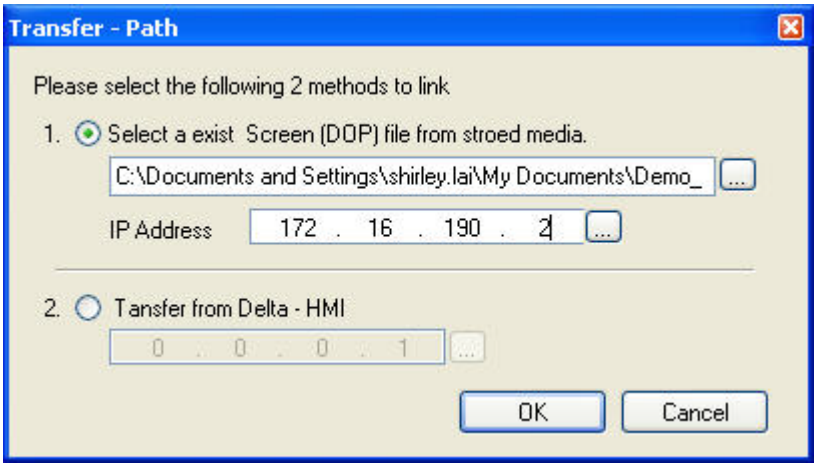


After the **New** dialog box is opened, select **Recipe Access** icon and press **OK** button.

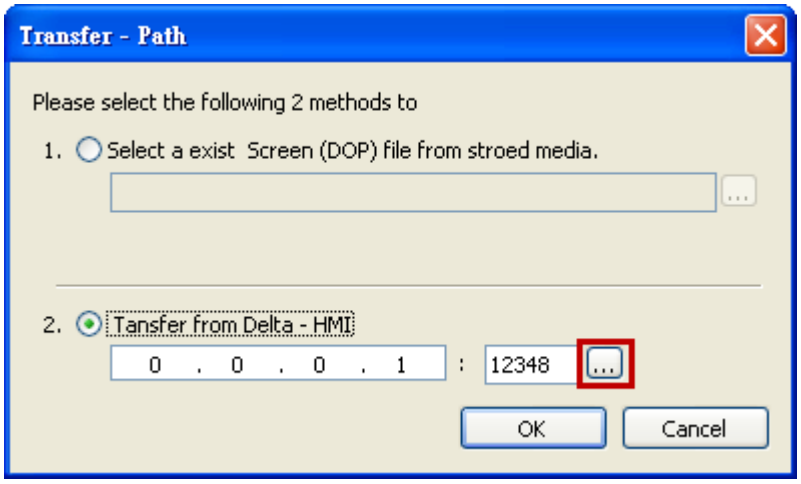


Click  icon to link HMI screen project file. There are two methods available for selection:

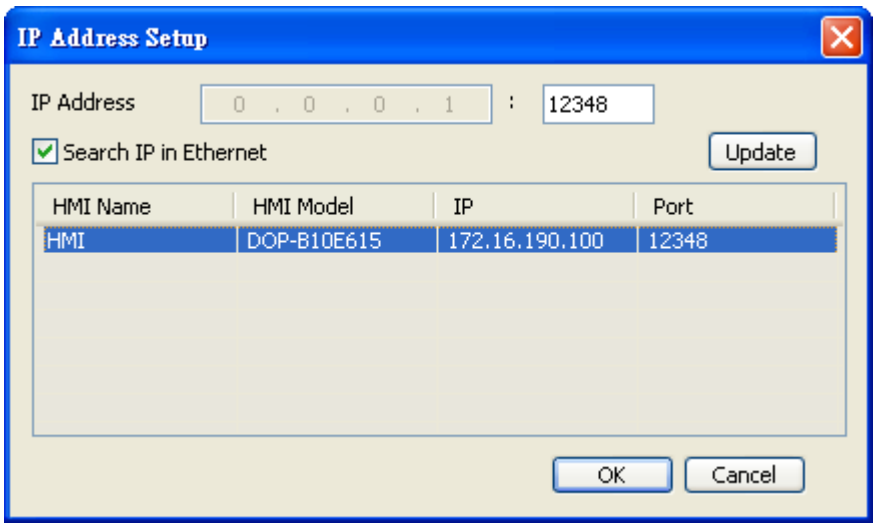
1. Select an existing Screen (DOP) file from stored media: Open an existing screen project file and set the IP address of the connecting HMI.



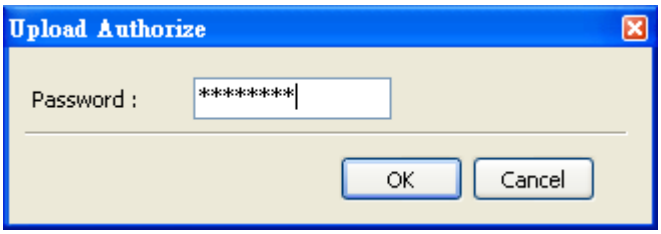
2. Transfer from Delta – HMI: Transfer the HMI screen project file via network communication directly.



After searching HMI IP in Ethernet, select HMI Name is HMI, IP is 172.16.190.100, press **OK**.



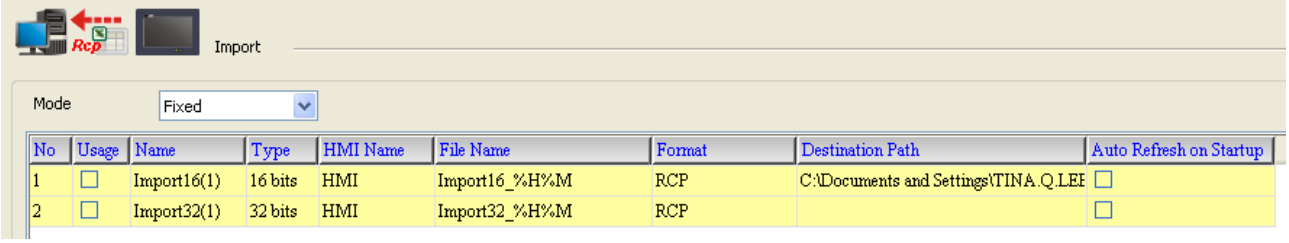
eServer will ask user to input the authorize password to connected with HMI. (The default password is 12345678.)



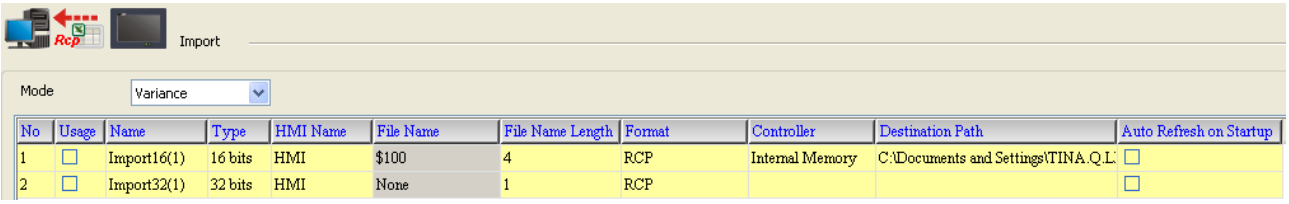
12.1.2 Register Setting

This step is used to set the register addresses of the database. There are two modes, Import and Export available for selection. After selecting the desired mode, choose Fixed or Variance from the drop-down list and complete the settings.

Import - Fixed

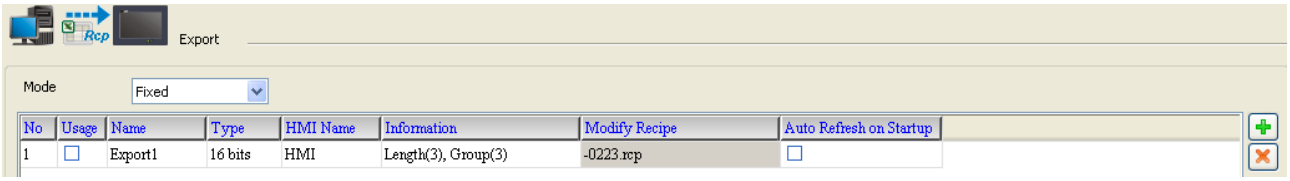


Import - Variance

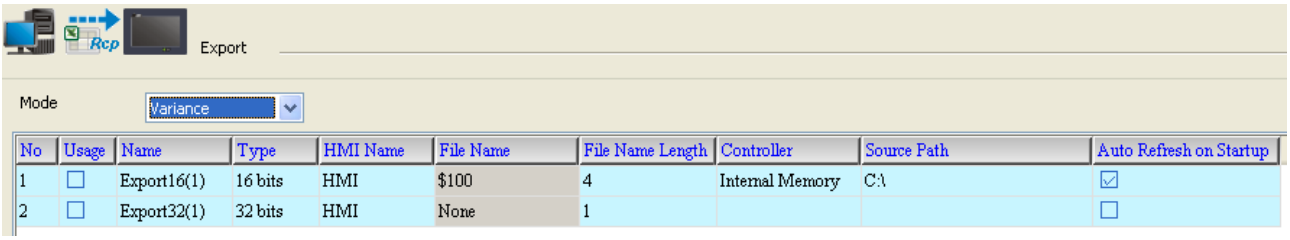


Setting Item	Description	Remark
No.	Excel Sheet index which the sampling data will be written.	Unchangeable
Usage	If the users want to select 16-bit recipe, enable this option by checking the check box.	
Name	Recipe display name	
Type	Recipe Bit type	Unchangeable
HMI Name	Name of connecting HMI	Unchangeable
File Name	1. When Fixed is selected: It is the file name of the imported file which could be changed and user-defined. 2. When Variance is selected: It is the register address of a certain trigger element. Note: The register only could be set to Word.	
Format	Provide user could save recipe as RCP and CSV file.	
File Name Length	Number of characters by referring the user-defined file name.	
Controller	Connecting controller	Unchangeable
Destination Path	Destination location where the imported file is located.	
Auto Refresh on Startup	Auto Refresh on Startup function for user could select when execute recipe at first. No matter what the condition set to Trigger or Const, if check auto refresh on start up function then eServer will execute Import or Export recipe at first time.	

Export - Fixed



Export - Variance



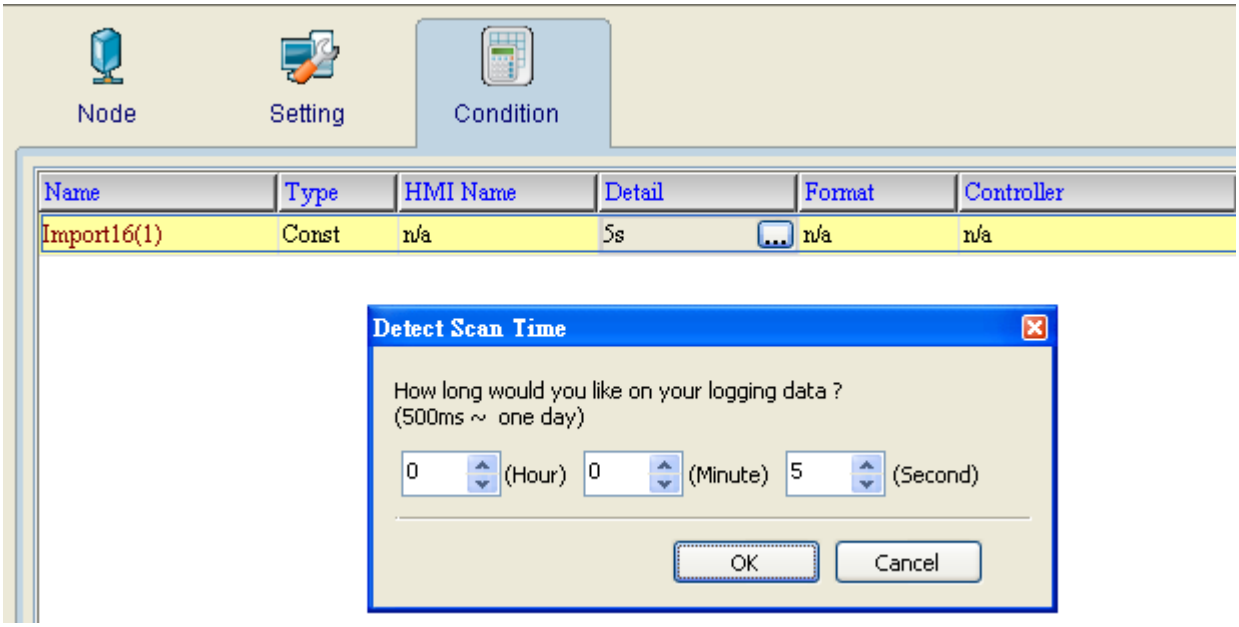
Setting Item	Description	Remark
No.	Excel Sheet index which the sampling data will be written.	Unchangeable
Usage	If the users want to select 16-bit recipe, enable this option by checking the check box.	
Name	Recipe display name	
Type	Recipe Bit type	Unchangeable
HMI Name	Name of connecting HMI	
Information	Length and Group of the recipe.	Unchangeable
Modify Recipe	Edit recipe directly for selected file	
File Name	It is the register address of a certain trigger element. Note: The register only could be set to Word.	
File Name Length	Number of characters by referring the user-defined file name.	
Controller	Connecting controller	Unchangeable
Source Path	Destination location where the exported file is located.	
Auto Refresh on Startup	Auto Refresh on Startup function for user could select when execute recipe at first. No matter what the condition set to Trigger or Const, if check auto refresh on start up function then eServer will execute Import or Export recipe at first time.	

12.1.3 Sampling Conditions

This step is used to set the sampling conditions. There are two kinds of options for selection:

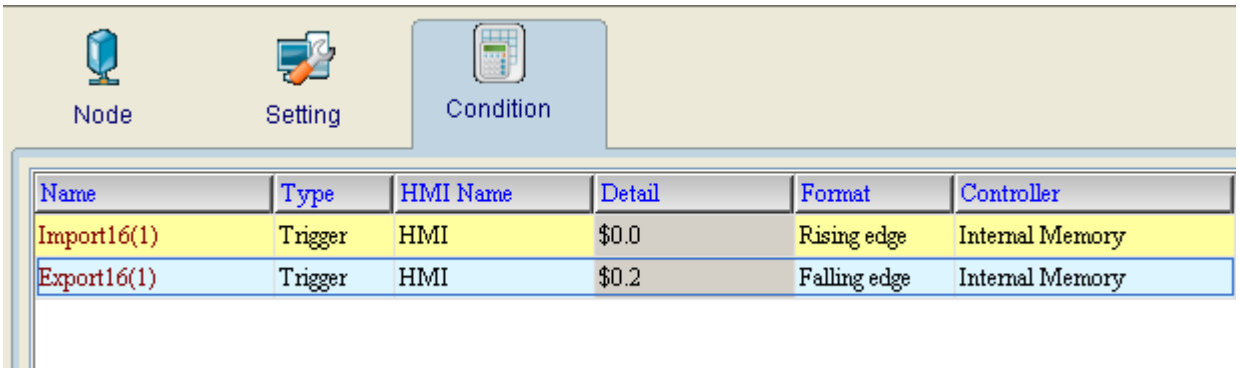
1. Const (execute sampling repeatedly in a certain span of time)

   This option is used to determine how long the sampling process is repeated. The time unit can be defined as second, minute or hour.



2. Trigger (Execute sampling when the trigger conditions are satisfied)

   This option is used to determine how long the sampling process is repeated when the trigger conditions are met. The detailed settings are described as follows:



Polling Cycle (Sampling Cycle): It is used to determine how long the sampling process is repeated. The time unit is ms.

Logging Condition:

Setting Item	Description	Remark
No.	Condition number	Unchangeable
Type	Sampling type. There are two kinds of options for selection: Const and Trigger. Const: Execute sampling repeatedly in a certain span of time.	

Setting Item	Description	Remark
	Trigger: Execute sampling when the trigger conditions are satisfied.	
HMI Name	Name of connecting HMI	
Detail	Register Address and set Const time	
Format	1. When the register address is set to Bit, the selectable options are: A. Rising edge: Triggered by rising-edge B. Falling edge Triggered by falling-edge	
Controller	Connecting controller	Unchangeable

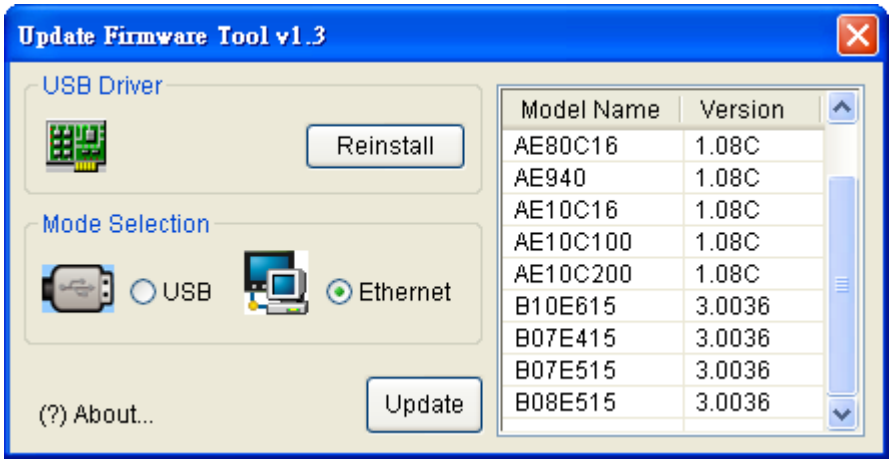
Chapter 13 Recipe Access Example

Before creating testing example, make sure to change the upload and download option (**Options > Environment**) on DOPSoft first. The default setting of upload and download is via **USB**. If the users need to use **Ethernet**, please change the default setting by referring to **Appendix A**.

13.1 Creating Example

Update Firmware

Remember to update the firmware before using eServer. To select this function, click **Start > Programs > Delta Industrial Automation > HMI > DOP eServer 1.00.xx > Update Firmware Tool**. After clicking **Update Firmware Tool**, the following dialog box will appear for the users to select the communication interface (the default setting is USB driver). Press **Update** button to update HMI firmware automatically.



Start eServer

To start eServer, click **Start > Programs > Delta Industrial Automation > HMI > DOP eServer 1.00.xx > eServer**.

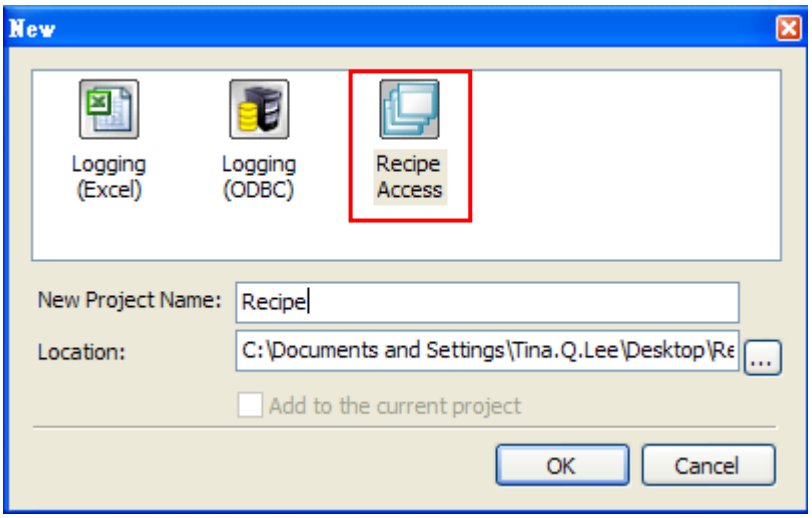


13.1.1 New Project

Start eServer, and click **File > New** or click **New** icon



After the **New** dialog box is opened, select **Recipe Access** icon and enter the file name **Recipe** for the Recipe Access database. Then, press **OK** button.

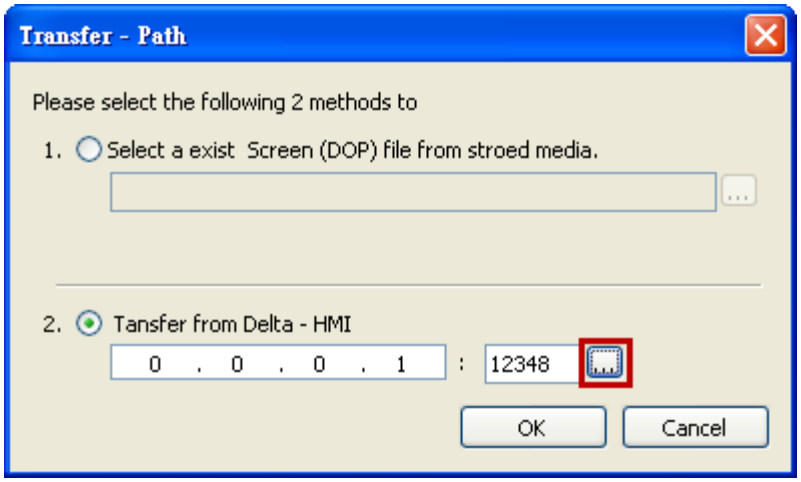

New
Logging (Excel)
Logging (ODBC)
Recipe Access
New Project Name:
Recipe
Location:
C:\Documents and Settings\Tina.Q.Lee\Desktop\Re
Add to the current project
OK
Cancel

13.1.2 Node

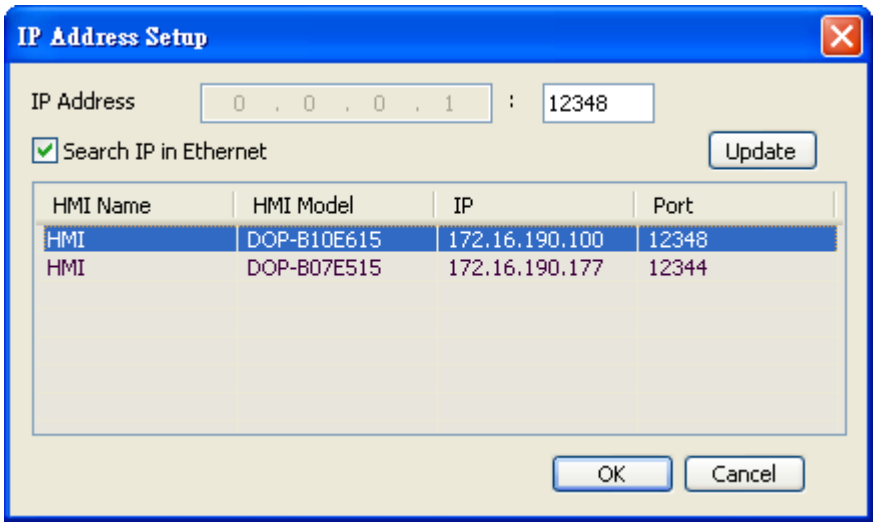
Click  icon to link HMI screen project file. There are two methods available for selection. Here choose **Select Transfer from Delta-HMI** option to create a new node.

Select Transfer from Delta-HMI

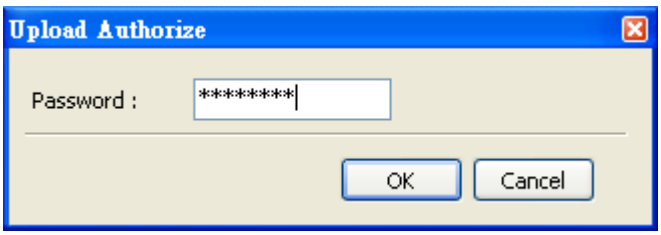
Via Ethernet to search IP address of the connecting HMI.



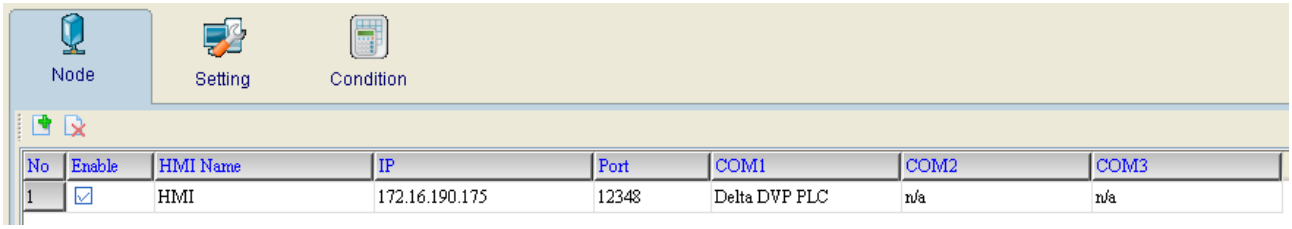
After finishing the auto search, please select IP address is **172.16.190.100.**



Press **OK** button to input authorize password, default password is 12345678.



Input correct password then eServer will get HMI data like HMI Name, IP address as below.



13.1.3 Setting and Condition - Import

When the node is set correctly, click **Setting** and complete the settings next. There are two modes, Import and Export available for selection. Each mode provides two options, Fixed or Variance from the drop-down list for use.

Import – Fixed

Setting :

a. Select **Fixed**.

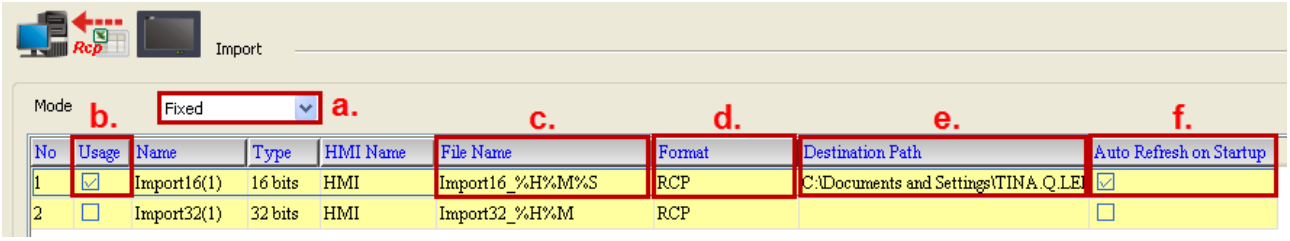
b. Check the check box to use **16-bit recipe** as the example.

c. User-define the **File Name** as **Import16_%H%M%S.**

d. Select Format to RCP.

e. Set **Destination Path** (destination location) where the imported file is located.

f. Enable Auto Refresh on Startup

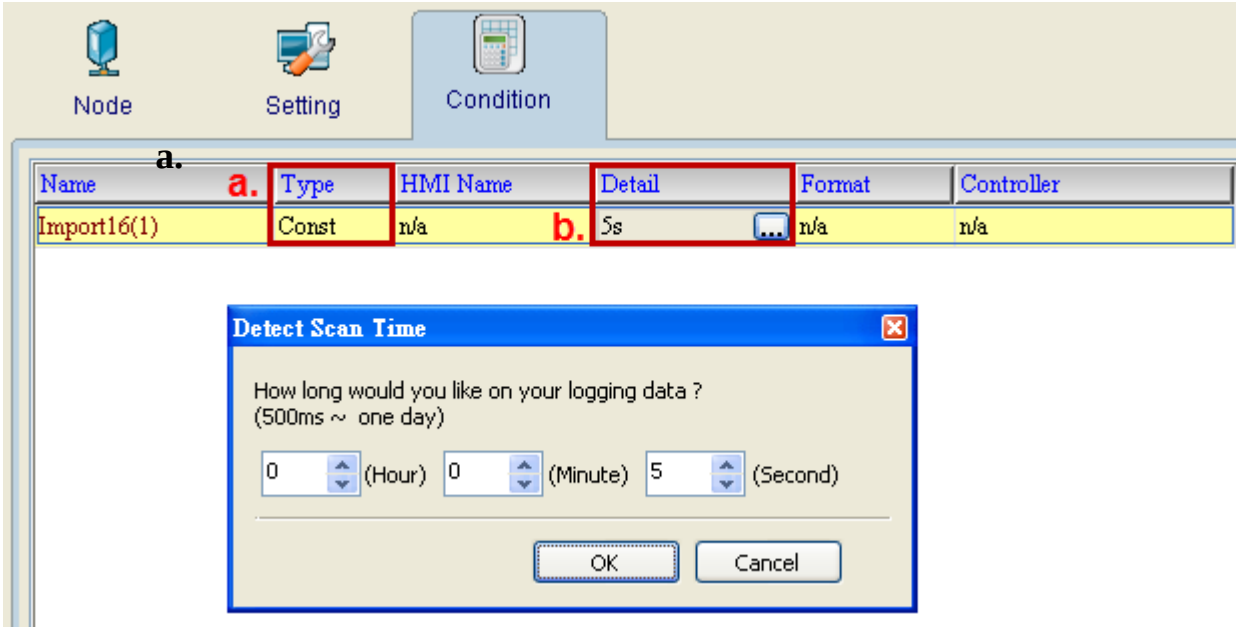


Condition :

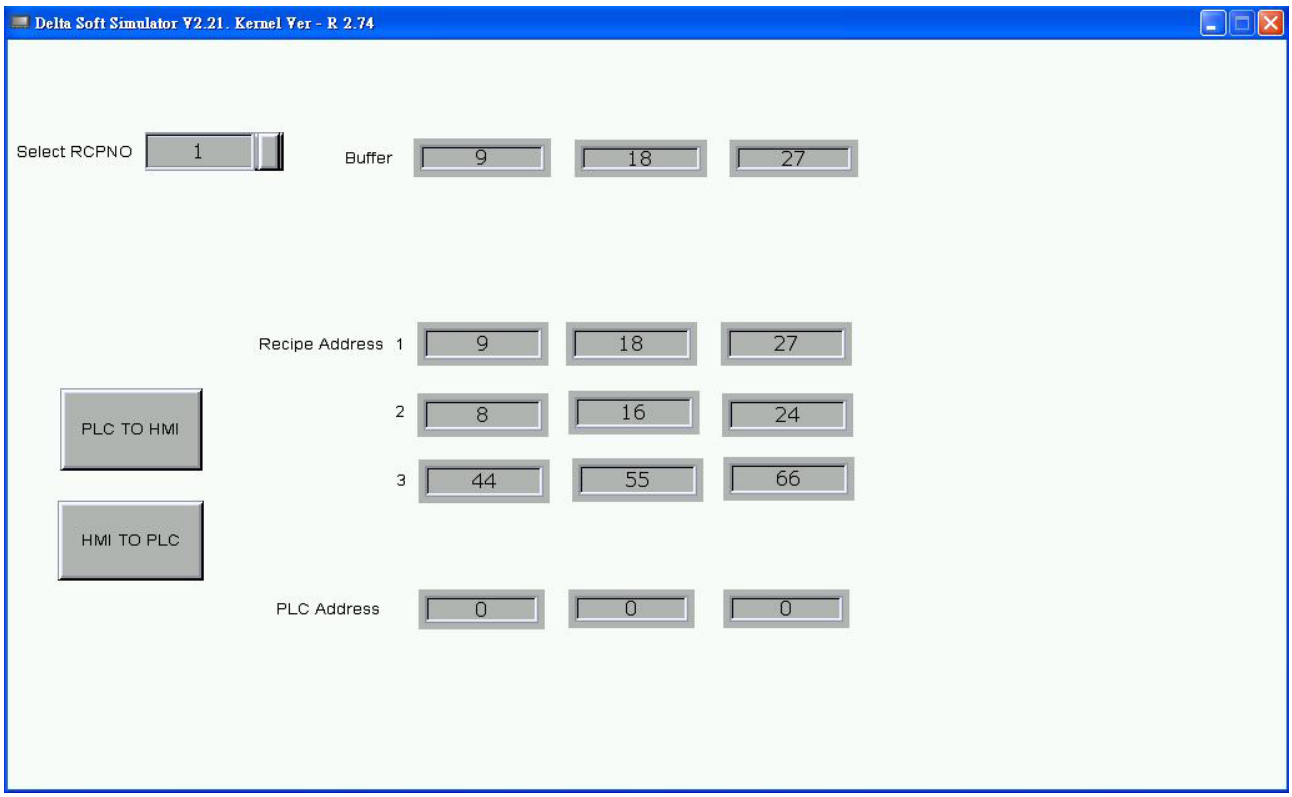
As for the method of sampling condition, select **Const (execute sampling repeatedly in a certain span of time)**.

a. Select **Const**.

b. Set **Polling Cycle** (sampling cycle) to **5s** (default setting value).



After completing all the settings on eServer, use the most updated DOPSoft program editing software to open the selected .dps file which just has been modified on eServer. Then, compile it and download the recipe data to HMI. The screen data will be shown as the figure below:

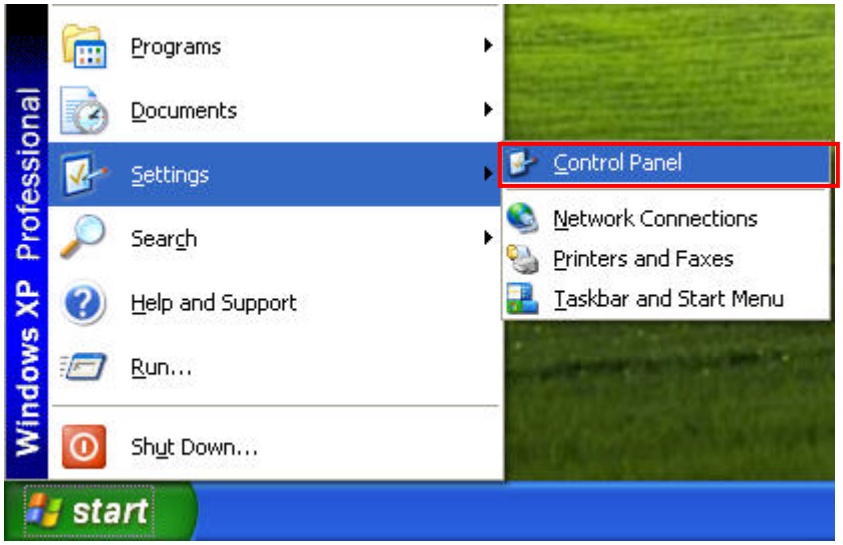


After downloading the recipe data, please make sure that the IP address numbers of subnet masks of the PC (172.16.190.1) and HMI (172.16.190.100) are the same; otherwise, HMI may not be displayed in the list when finding node.

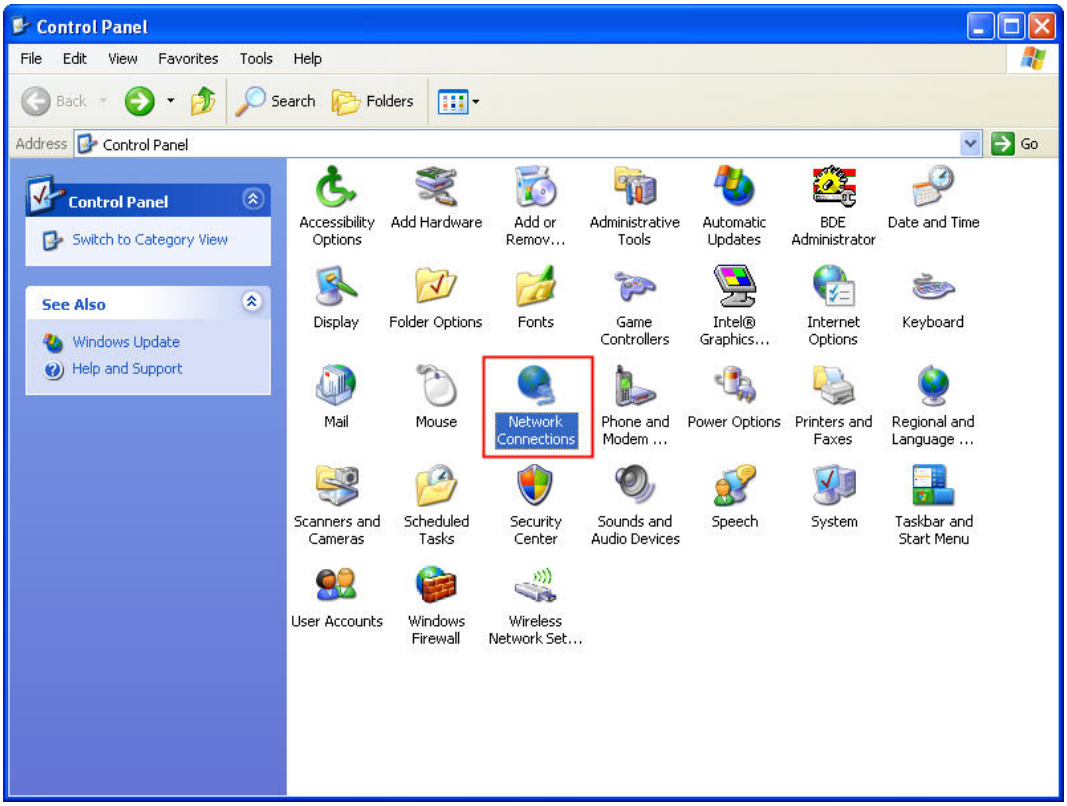
Networking Settings

Ensure to observe the following instructions to complete PC networking settings before eServer operation.

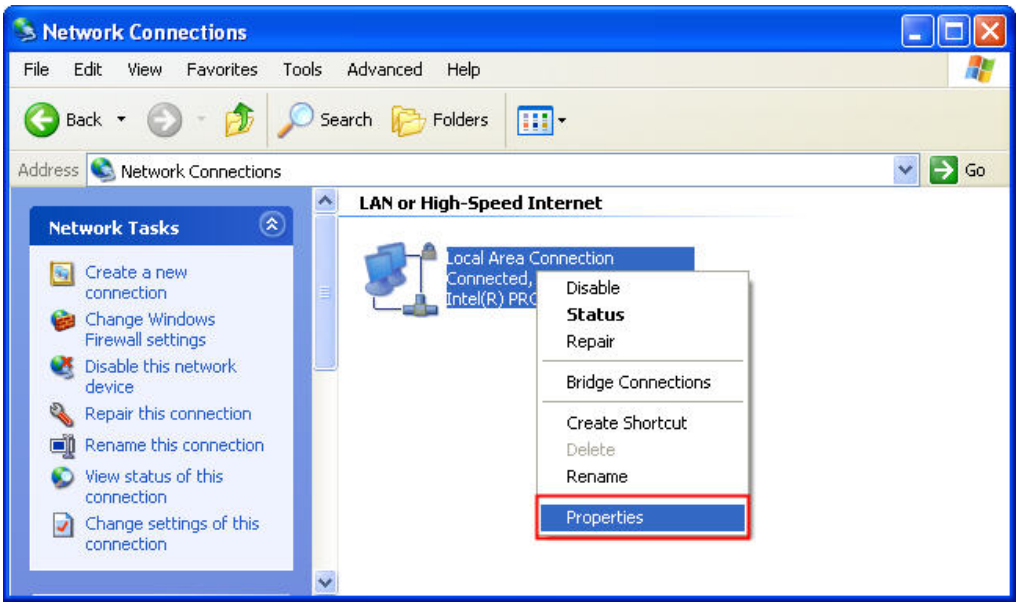
Setting PC Network



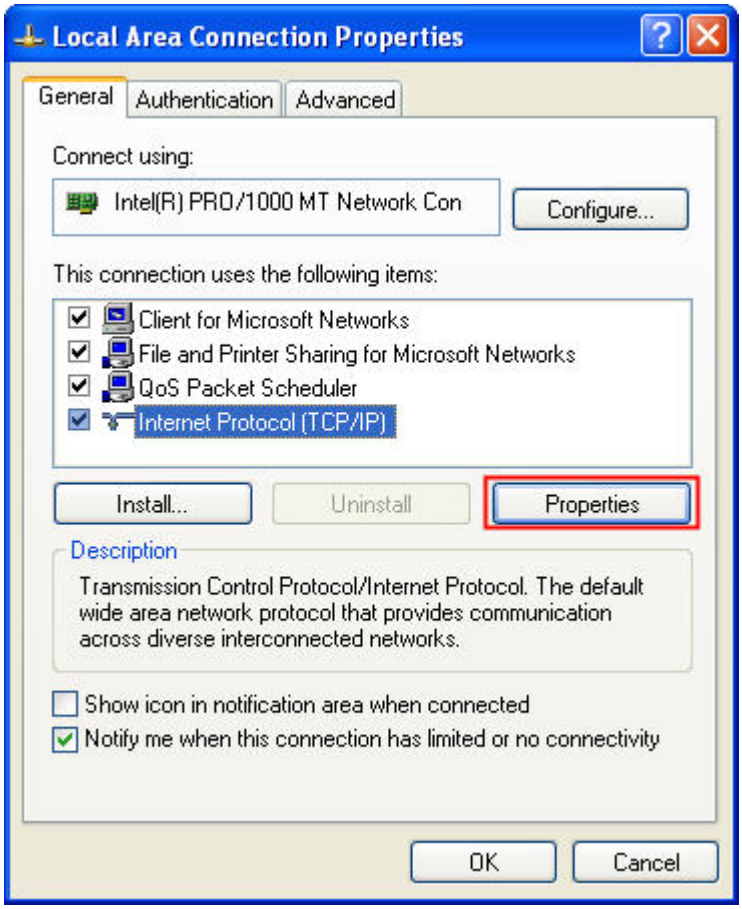
Power on PC and start Windows. Click **Start > Programs**, point to Control Panel, and then select **Network Connections** ().



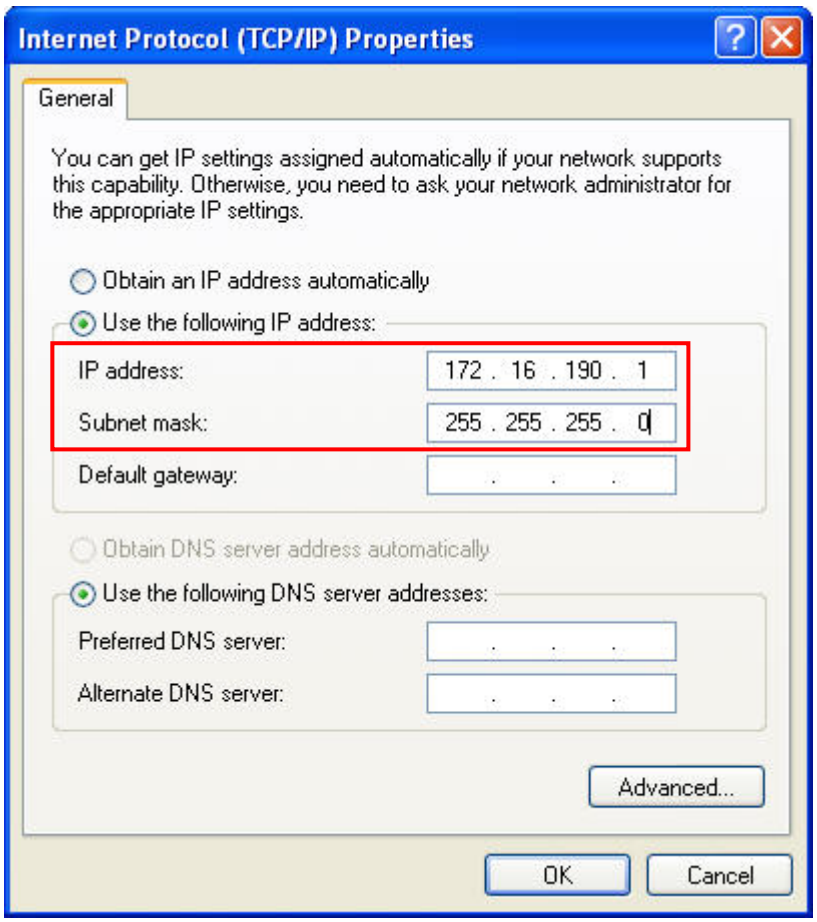
Double-click **Network Connections** icon, the following windows will appear. Right-click the **Local Area Connection** icon, and then select **Properties** from the pop-up menu.



The **Local Area Connection Properties** dialog box will open. Use **General** tab to select **Internet Protocol (TCP/IP)**. Then, press **Properties** button.



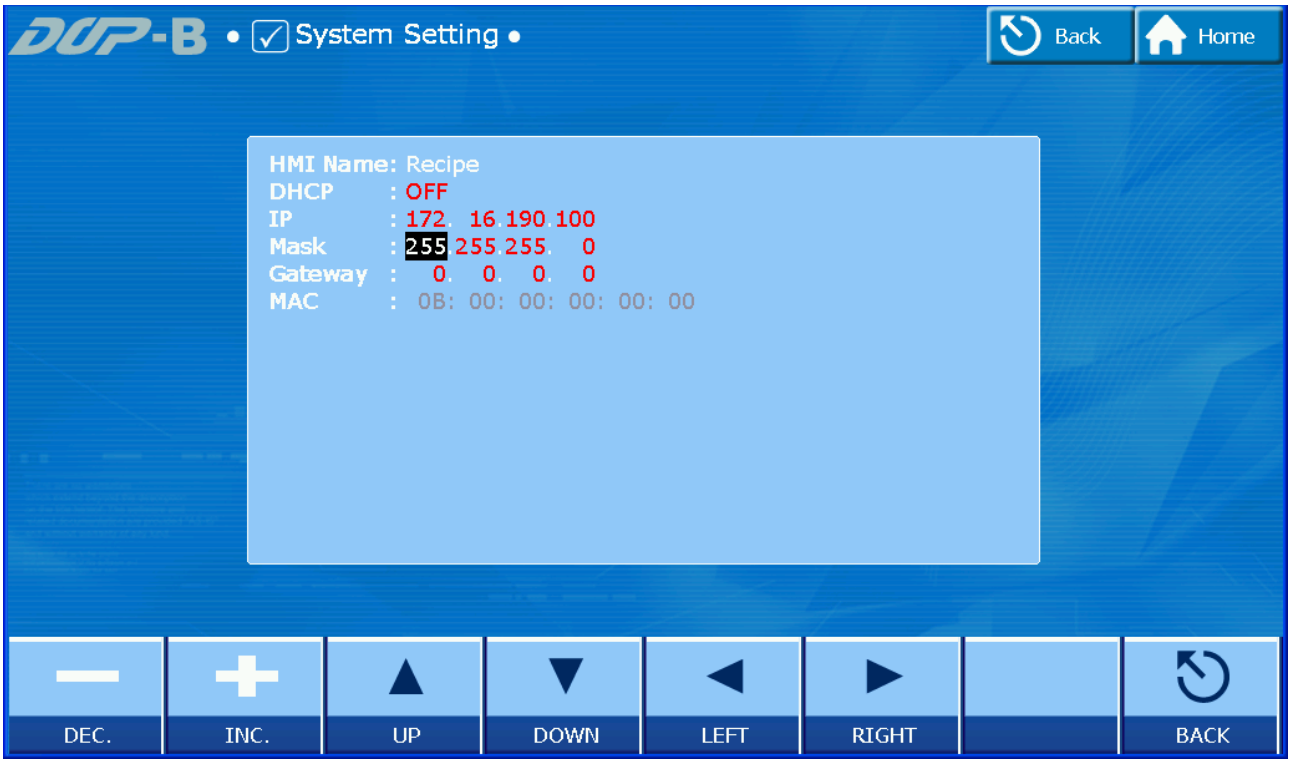
The **Internet Protocol (TCP/IP) Properties** dialog box will open. Choose **Use the following IP address** and enter the IP address numbers of the PC into the field of **IP address** and **Subnet mask**.



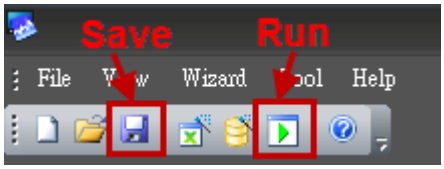
Then, press **OK** button to finish the settings.

Setting IP Address in HMI

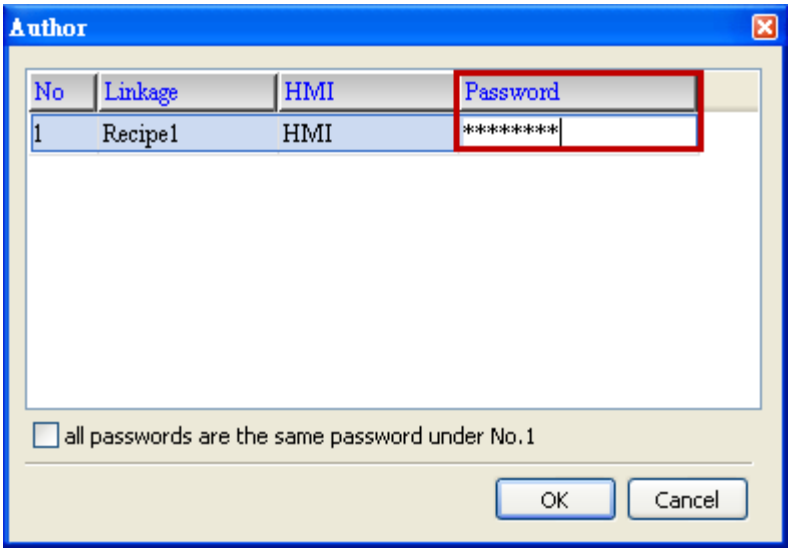
Enter into the system menu and set IP address to 172.16.190.100. Please see the figure below:



After networking settings are set correctly and successfully, return to eServer, save the file first and then run the recipe data. Please see the figure below:



Press  icon. The following dialog box will pop-up and ask the users to enter the password.



Please enter 12345678 in the filed of the password at the first time (12345678 is the default setting value and the users can change it freely). After the correct password is entered, the  icon will display on the tool bar at the left-bottom corner.

When eServer performs reading, due to enable the auto refresh on startup, eServer will execute import recipe to destination path. But if disable the auto refresh on startup, eServer will wait for 5 second then the eServer execute import recipe to destination path. After import recipe, user could examine and check if the saved file name is saved in the destination path or not. Please refer to the figure such as 

.

On the other hand, if incorrect or invalid password is entered, the following error message dialog box will appear to alert the users.



Import - Variance

Setting :

a. Select **Variance**.

b. Check the check box to use **16-bit recipe** as the example.

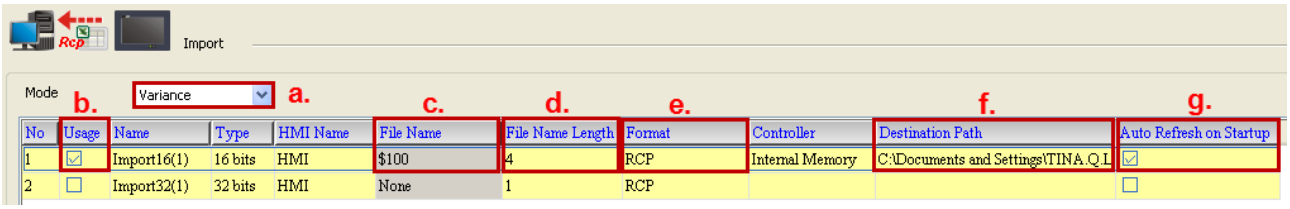
c. Set the **File Name** (file name of the imported file) to be the same as the register address of HMI. (In this case $100 character input element is used)

d. Set **File Name Length** (number of the imported characters). (In this case the File Name Length is set to 4. This is because the name of the imported file is Tina.csv. The system will refer to “Tina” these four characters and convert the imported file to Tina.rcp and then save it to the destination path.)

e. Select Format as RCP.

f. Set **Destination Path** (destination location) where the imported file is located.

g. Enable Auto Refresh on Startup.

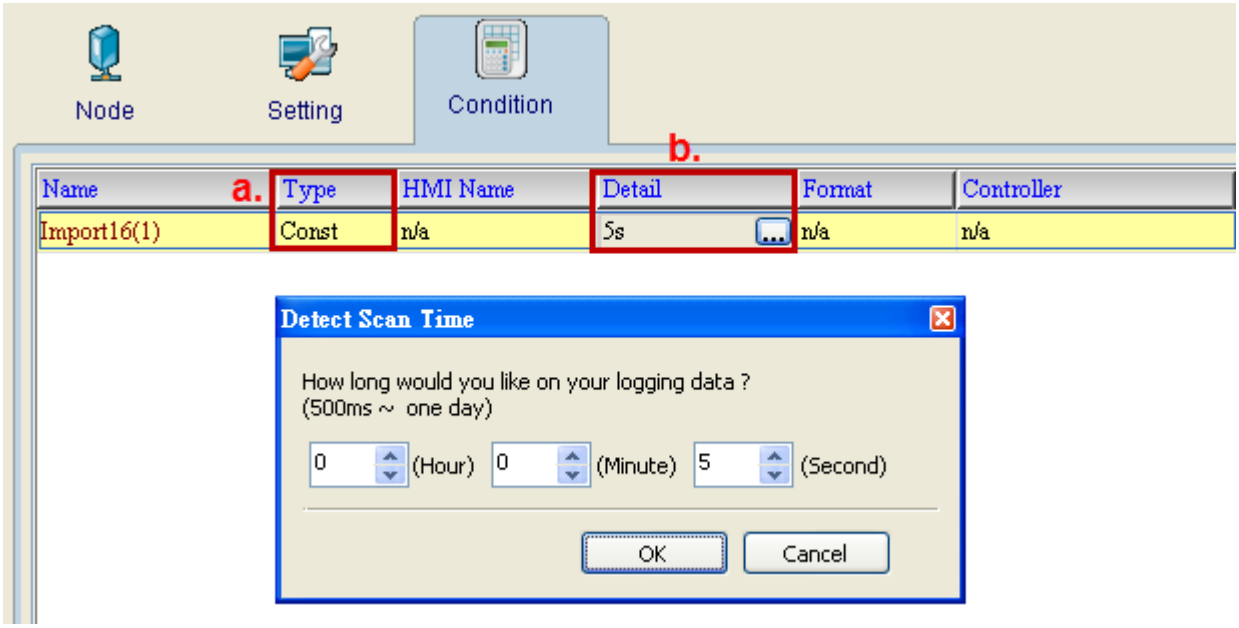


Condition :

As for the method of sampling condition, select **Const (execute sampling repeatedly in a certain span of time)**.

a. Select **Const**.

b. Set **Polling Cycle** (sampling cycle) to **5s** (default setting value).

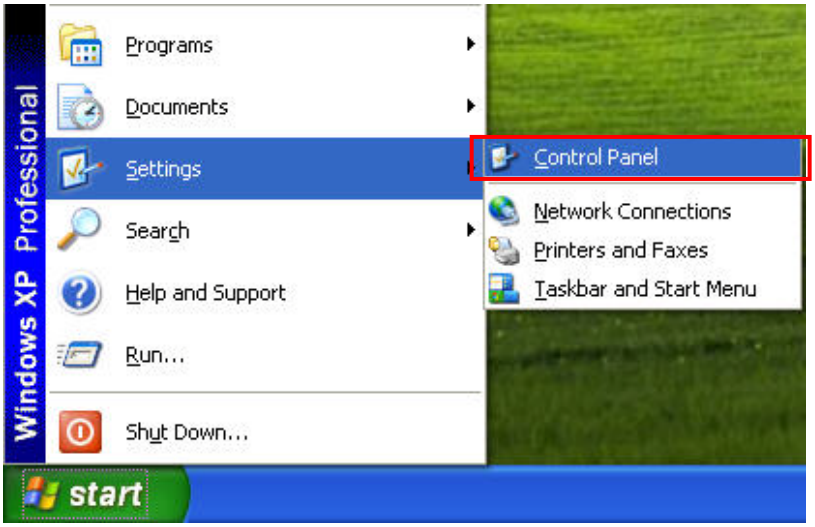


After completing all the settings, please make sure that the IP address numbers of subnet masks of the PC (172.16.190.1) and HMI (172.16.190.100) are the same; otherwise, HMI may not be displayed in the list when finding node.

Networking Settings

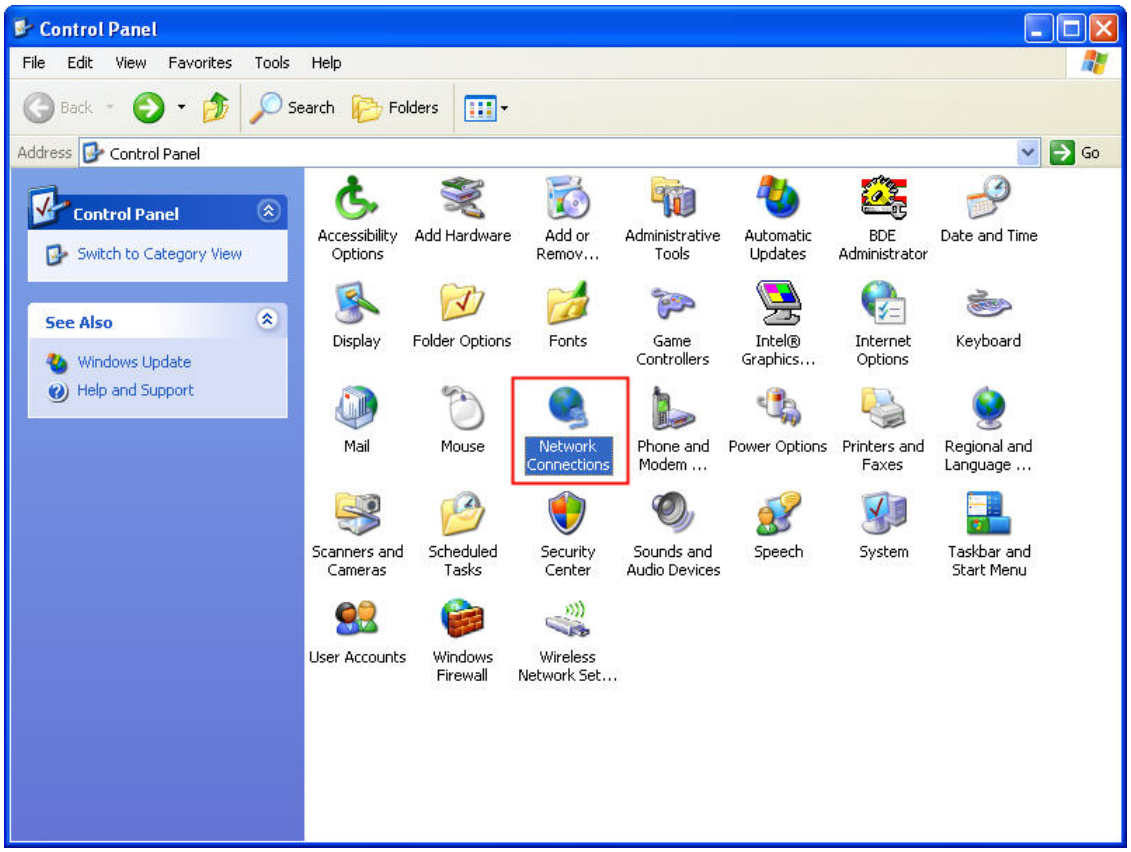
Ensure to observe the following instructions to complete PC networking settings before eServer operation.

Setting PC Network

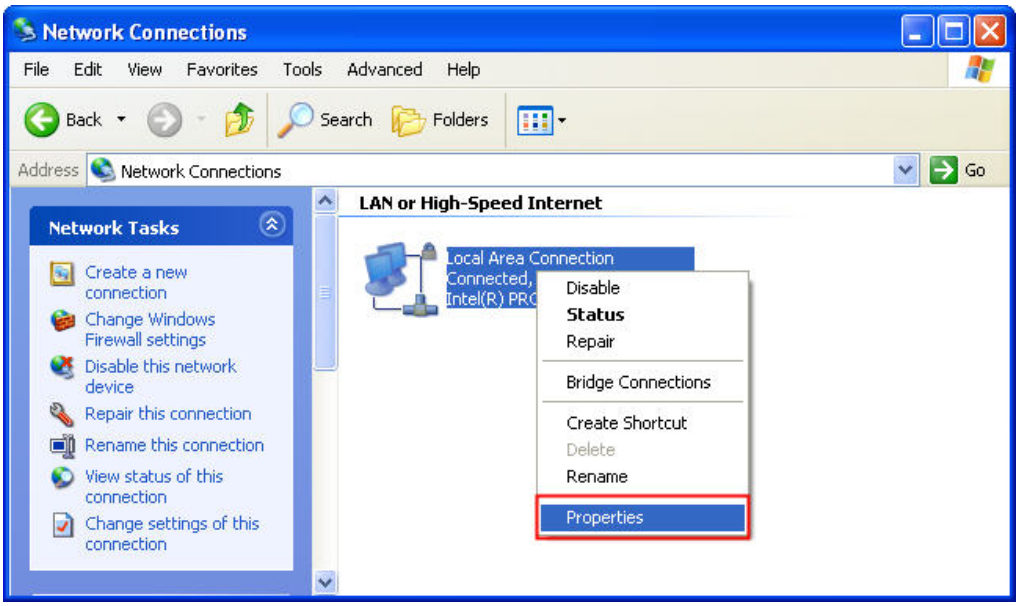


Power on PC and start Windows. Click **Start > Programs**, point to Control Panel, and then select Network Connections (

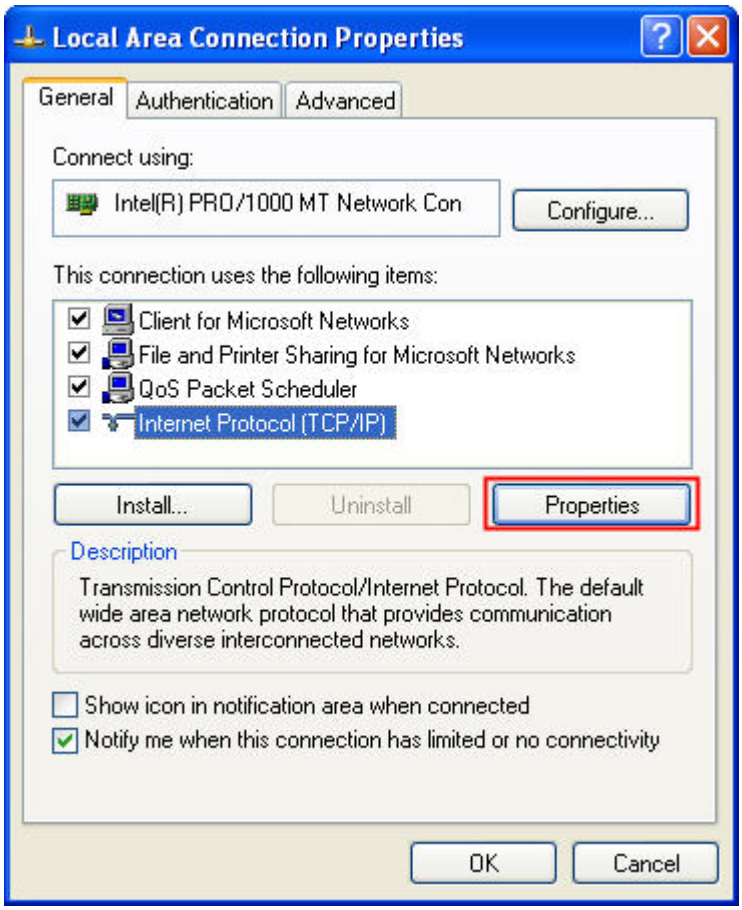
).



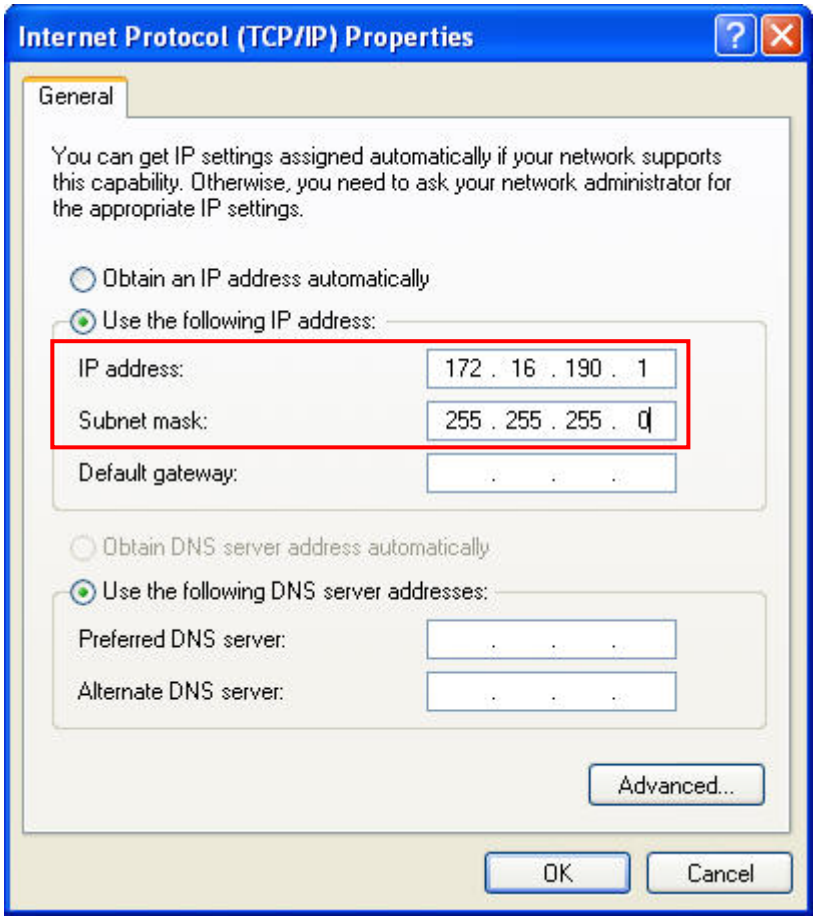
Double-click **Network Connections** icon, the following windows will appear. Right-click the **Local Area Connection** icon, and then select **Properties** from the pop-up menu.



The **Local Area Connection Properties** dialog box will open. Use **General** tab to select **Internet Protocol (TCP/IP)**. Then, press **Properties** button.



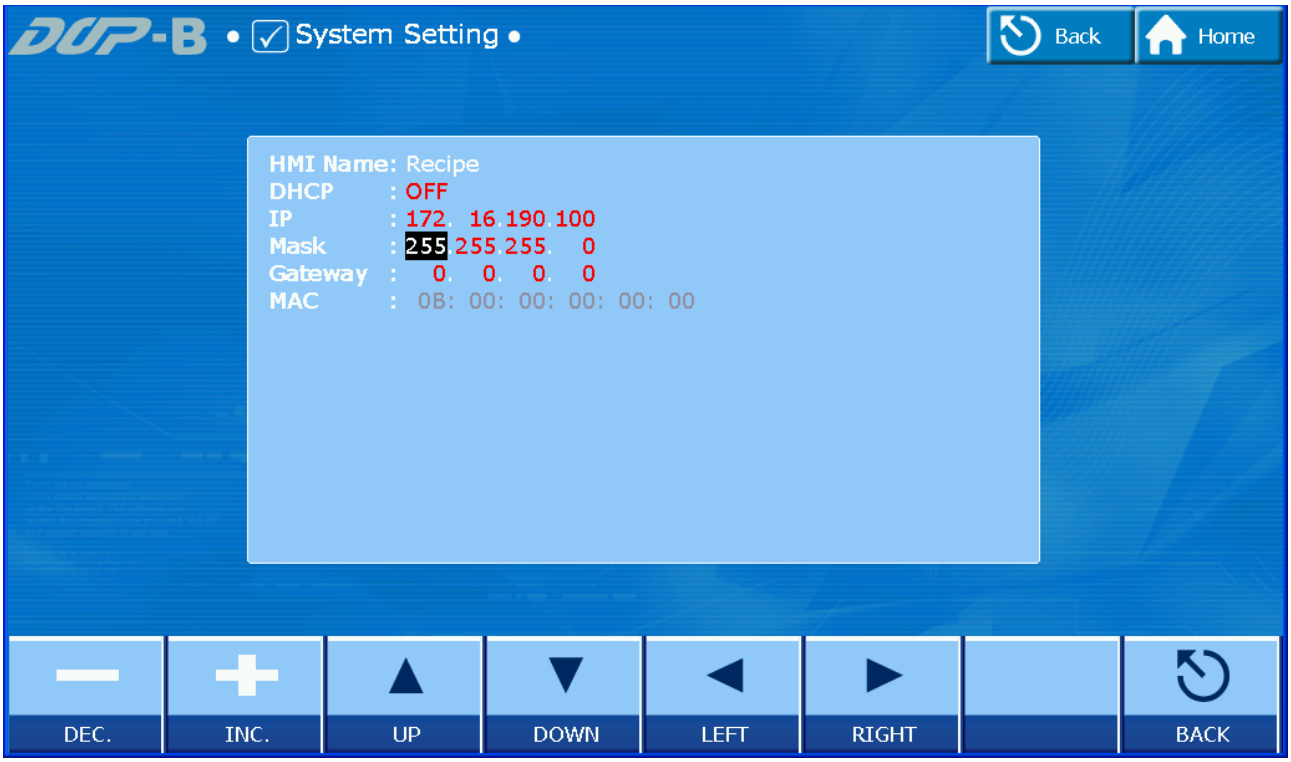
The **Internet Protocol (TCP/IP) Properties** dialog box will open. Choose **Use the following IP address** and enter the IP address numbers of the PC into the field of **IP address** and **Subnet mask**.



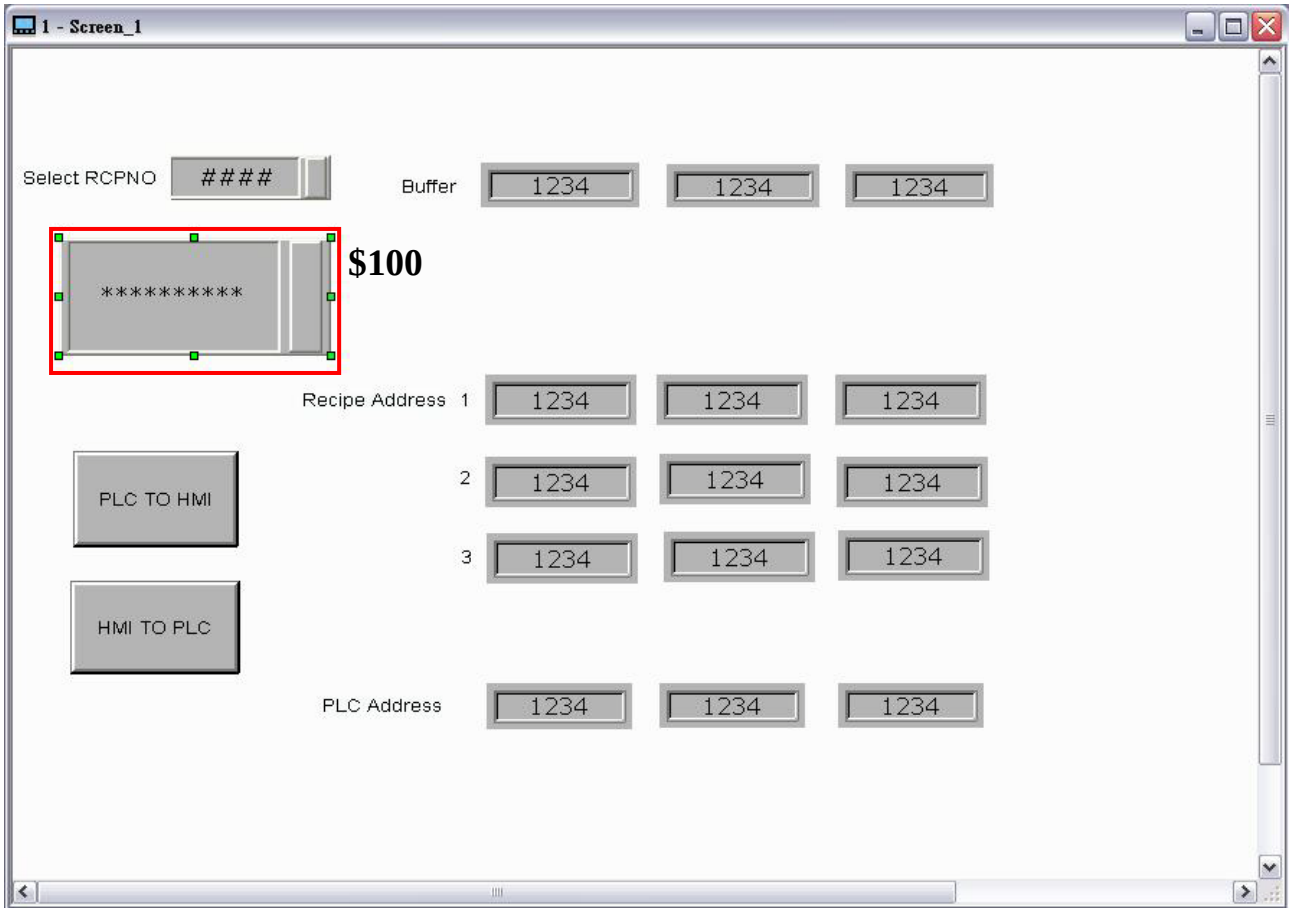
Then, press **OK** button to finish the settings.

Setting IP Address in HMI

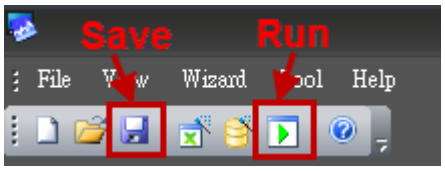
Enter into the system menu and set IP address to 172.16.190.100. Please see the figure below:



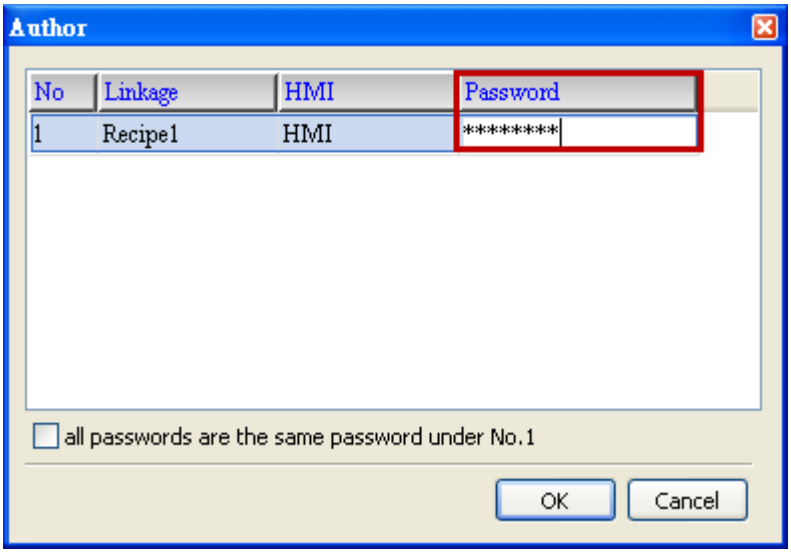
After completing all the settings and make sure that the communication is good, use the most updated DOPSoft program editing software to open the selected .dps file which just has been modified on eServer. Create a character input element and set its address to $100.



Then, compile it and download the recipe data to HMI. After recipe data is downloaded to HMI successfully, please trigger the character input element on HMI and enter TINA these four characters at first, then return to eServer, save the file first and then run the recipe data.

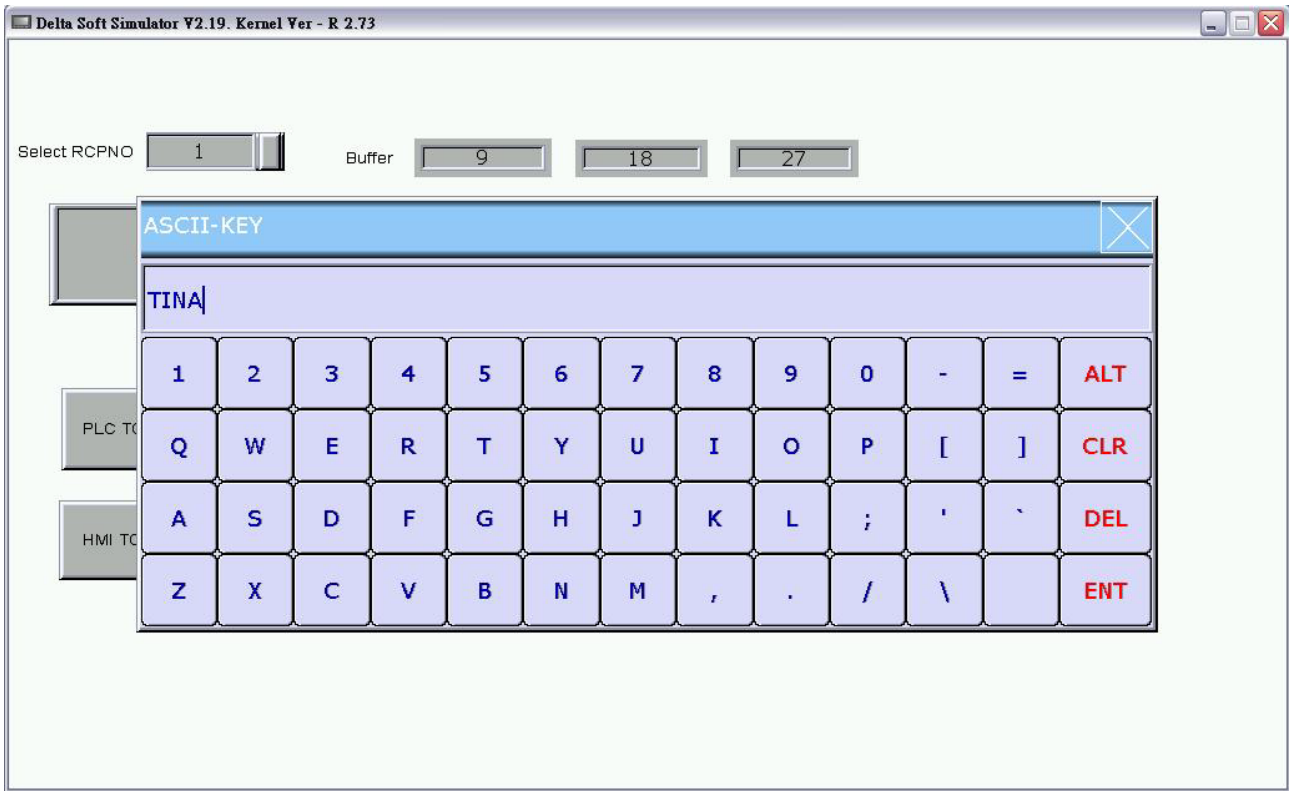


Press  icon. The following dialog box will pop-up and ask the users to enter the password.



Please enter 12345678 in the filed of the password at the first time (12345678 is the default setting value and the users can change it freely). After the correct password is entered, the  icon will display on the tool bar at the left-bottom corner.

When eServer performs reading, due to enable auto refresh on startup, it will auto import recipe to destination path, but if disable enable auto refresh on startup, please trigger the character input element on HMI and enter TINA these four characters, then wait for 5 second to import recipe to destination path. Please refer to the figure below:



Then, the system will examine and check if the saved file name is saved in the destination path or not. Please refer to the figure such as 

.

On the other hand, if incorrect or invalid password is entered, the following error message dialog box will appear to alert the users.



13.1.4 Setting and Condition - Export

Export – Fixed

Setting :

a. Press  to add file name as **-0223.rcp** of export file.

b. Select **Fixed**.

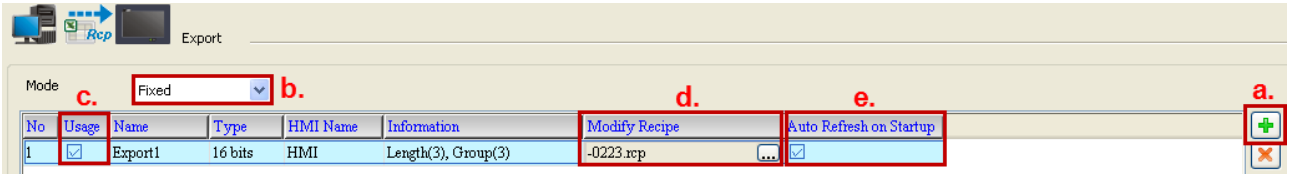
c. Check the check box to use **16-bit recipe** as the example.

d. Set **Destination Path** (destination location) where the imported file is located.

Please note: the value of the selected -0223.rcp file (item d.) is the downloading value when the element is triggered on HMI.

	A	B	C
1	3	3	
2	111	222	333
3	444	555	666
4	777	888	999

e. Enable Auto Refresh on Startup.



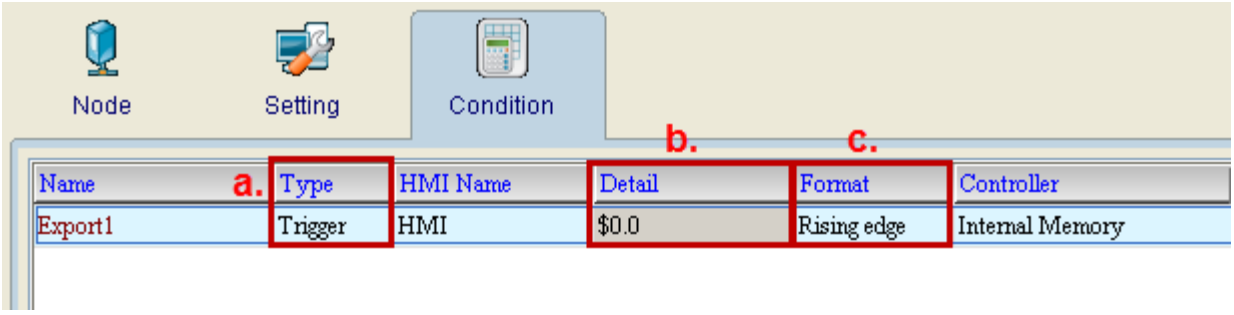
Condition :

As for the method of sampling condition, select **Trigger (Execute sampling when the trigger conditions are satisfied)**.

a. Select **Trigger**.

b. Set **Address** to the register address of the trigger element. (In this case the trigger element is a maintained button element and its address is set to $0.0)

c. Select **Format** as **Rising edge**.

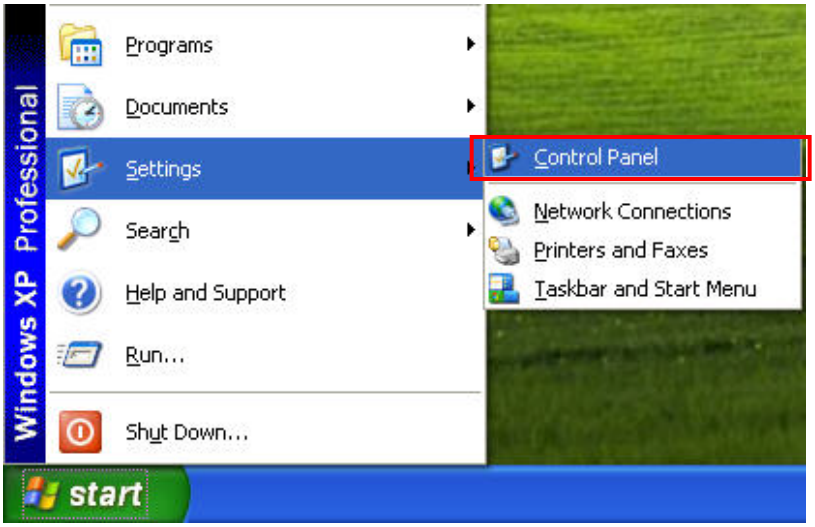


After completing all the settings, please make sure that the IP address numbers of subnet masks of the PC (172.16.190.1) and HMI (172.16.190.100) are the same; otherwise, HMI may not be displayed in the list when finding node.

Networking Settings

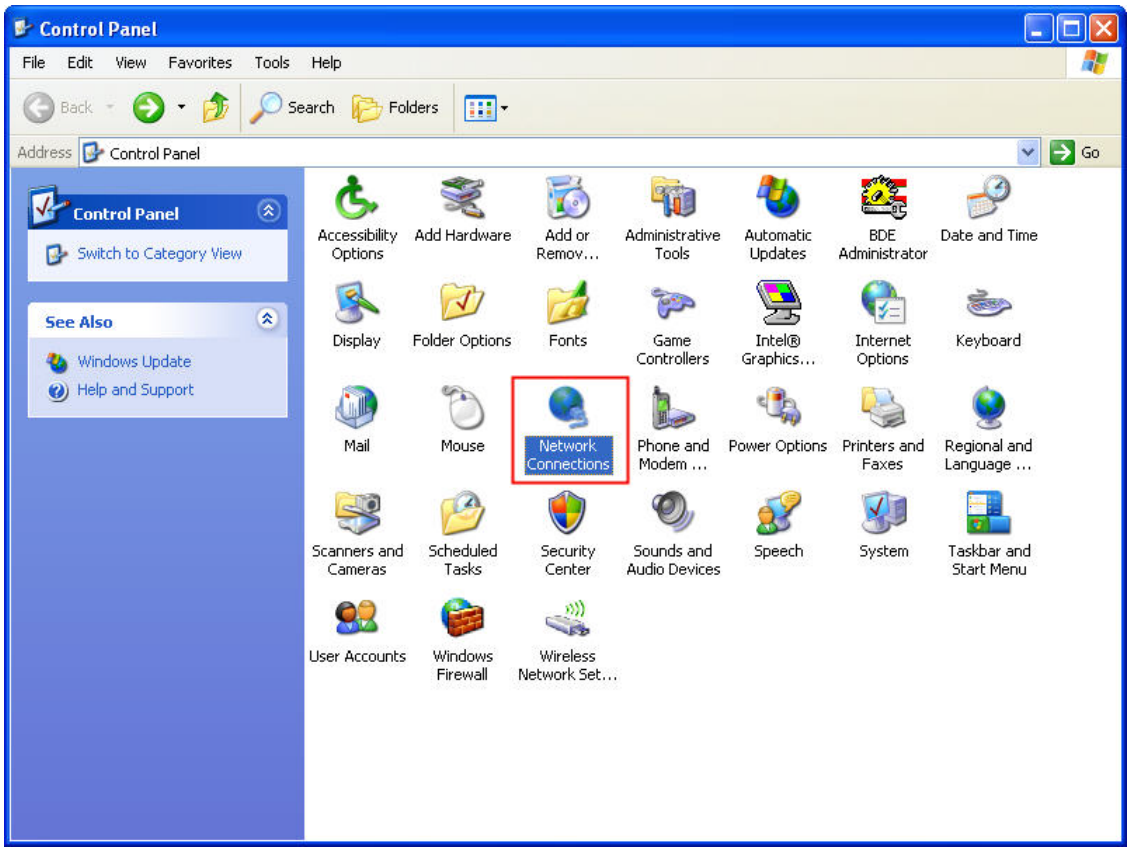
Ensure to observe the following instructions to complete PC networking settings before eServer operation.

Setting PC Network

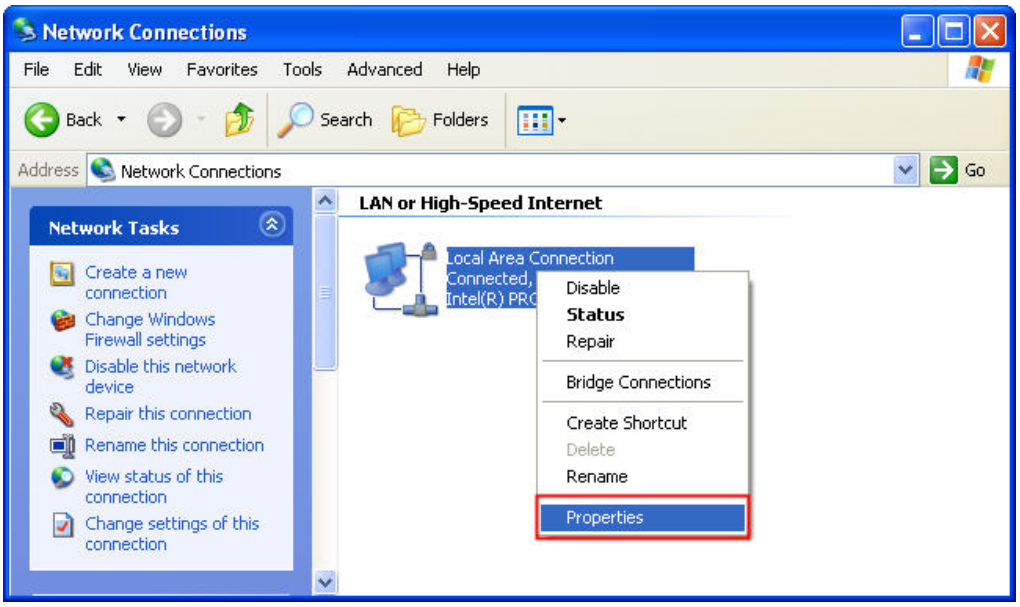


Power on PC and start Windows. Click **Start > Programs**, point to Control Panel, and then select Network Connections (

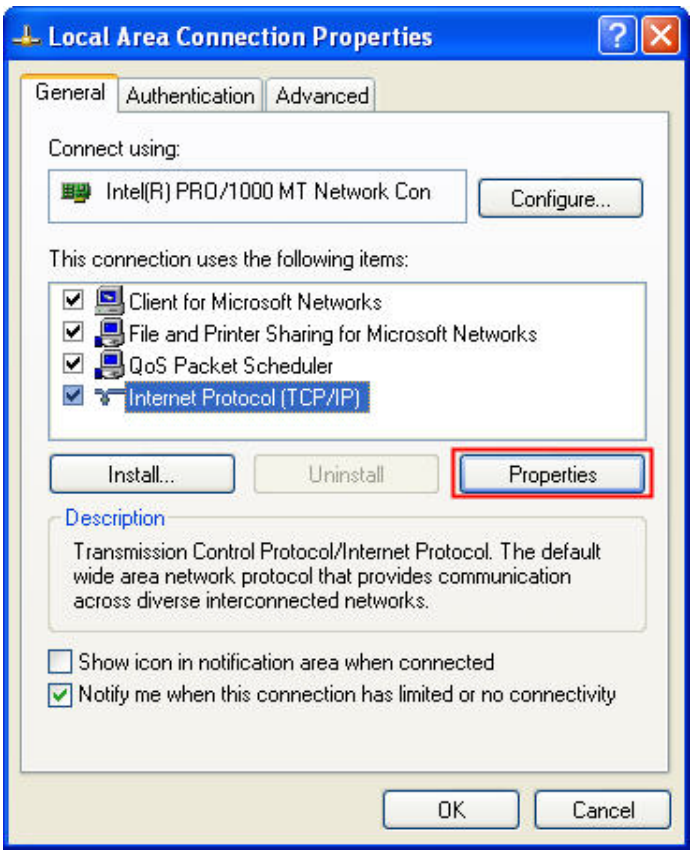
).



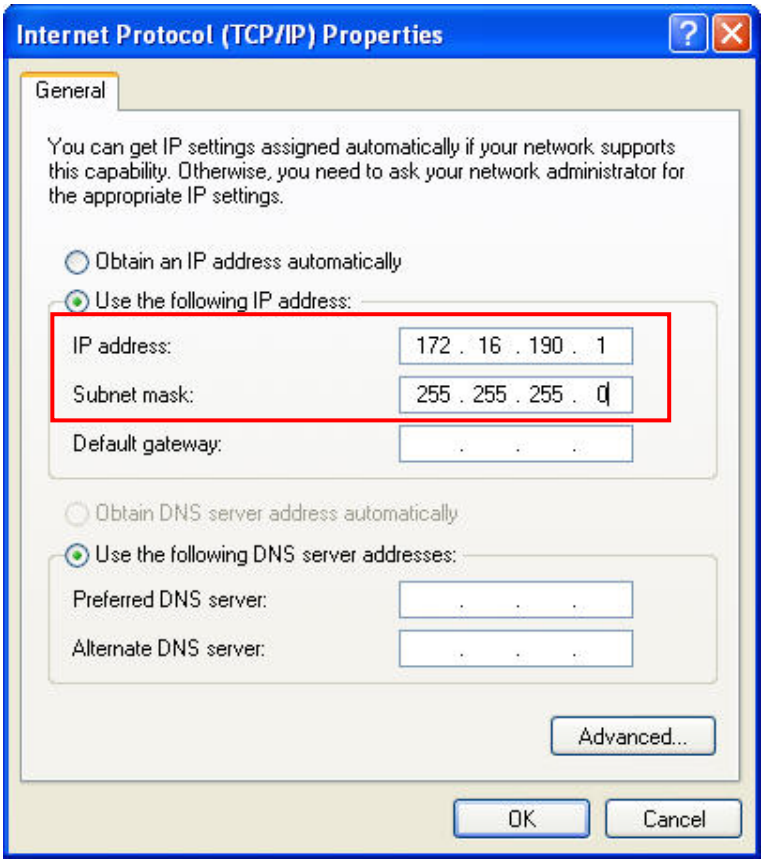
Double-click **Network Connections** icon, the following windows will appear. Right-click the **Local Area Connection** icon, and then select **Properties** from the pop-up menu.



The **Local Area Connection Properties** dialog box will open. Use **General** tab to select **Internet Protocol (TCP/IP)**. Then, press **Properties** button.



The **Internet Protocol (TCP/IP) Properties** dialog box will open. Choose **Use the following IP address** and enter the IP address numbers of the PC into the field of **IP address** and **Subnet mask**.



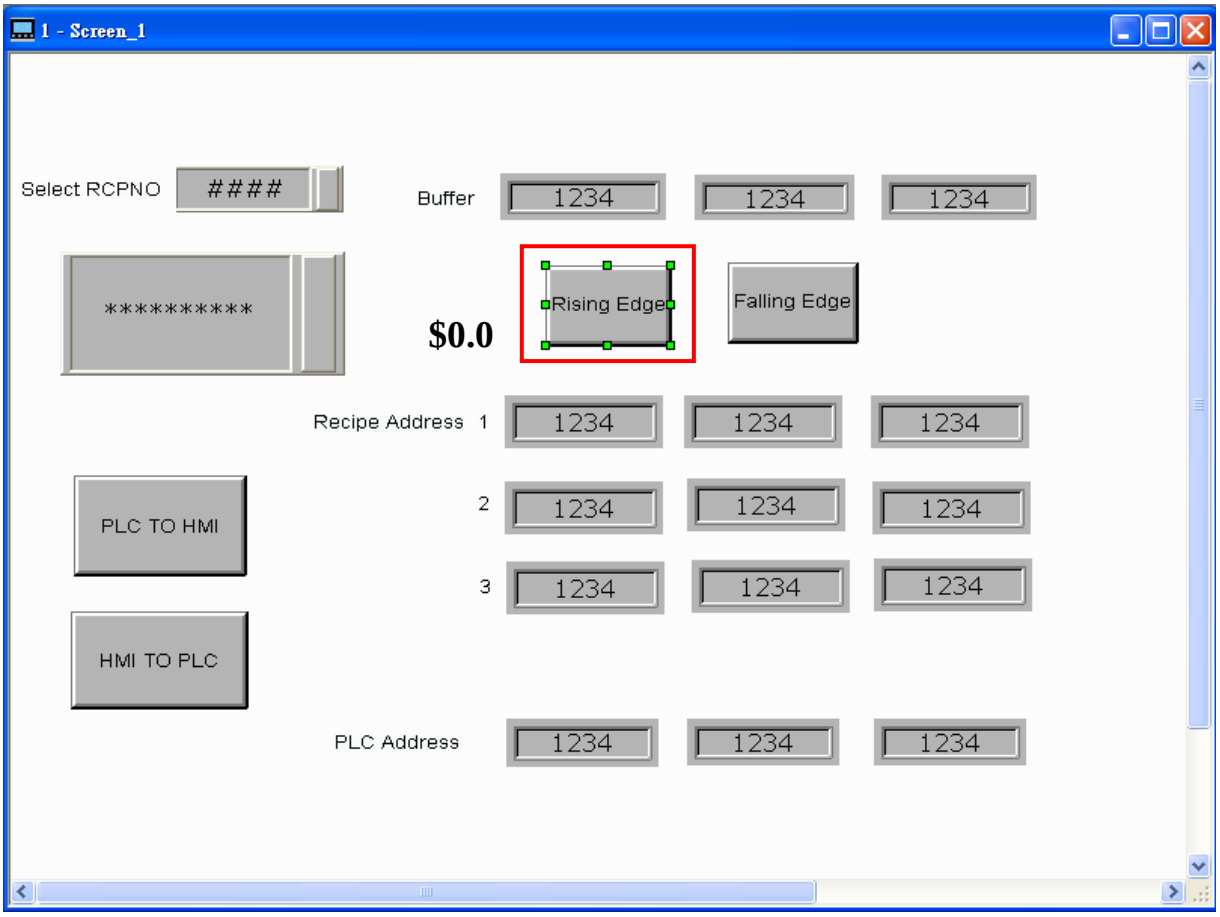
Then, press **OK** button to finish the settings.

Setting IP Address in HMI

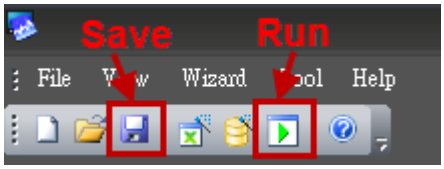
Enter into the system menu and set IP address to 172.16.190.100. Please see the figure below:



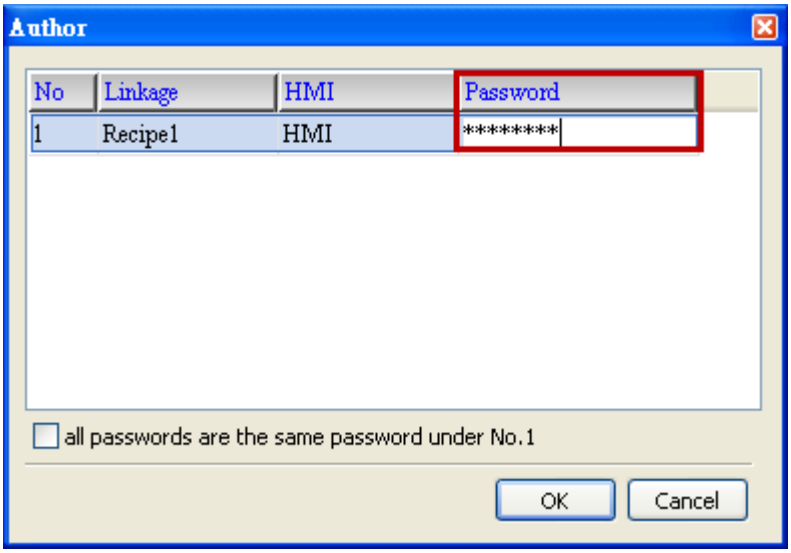
After completing all the settings and make sure that the communication is good, use the most updated DOPSoft program editing software to open the selected .dps file which just has been modified on eServer. Create a maintained button element and set its address to $0.0.



Then, compile it and download the recipe data to HMI. After recipe data is downloaded to HMI successfully, return to eServer, save the file first and then run the recipe data.



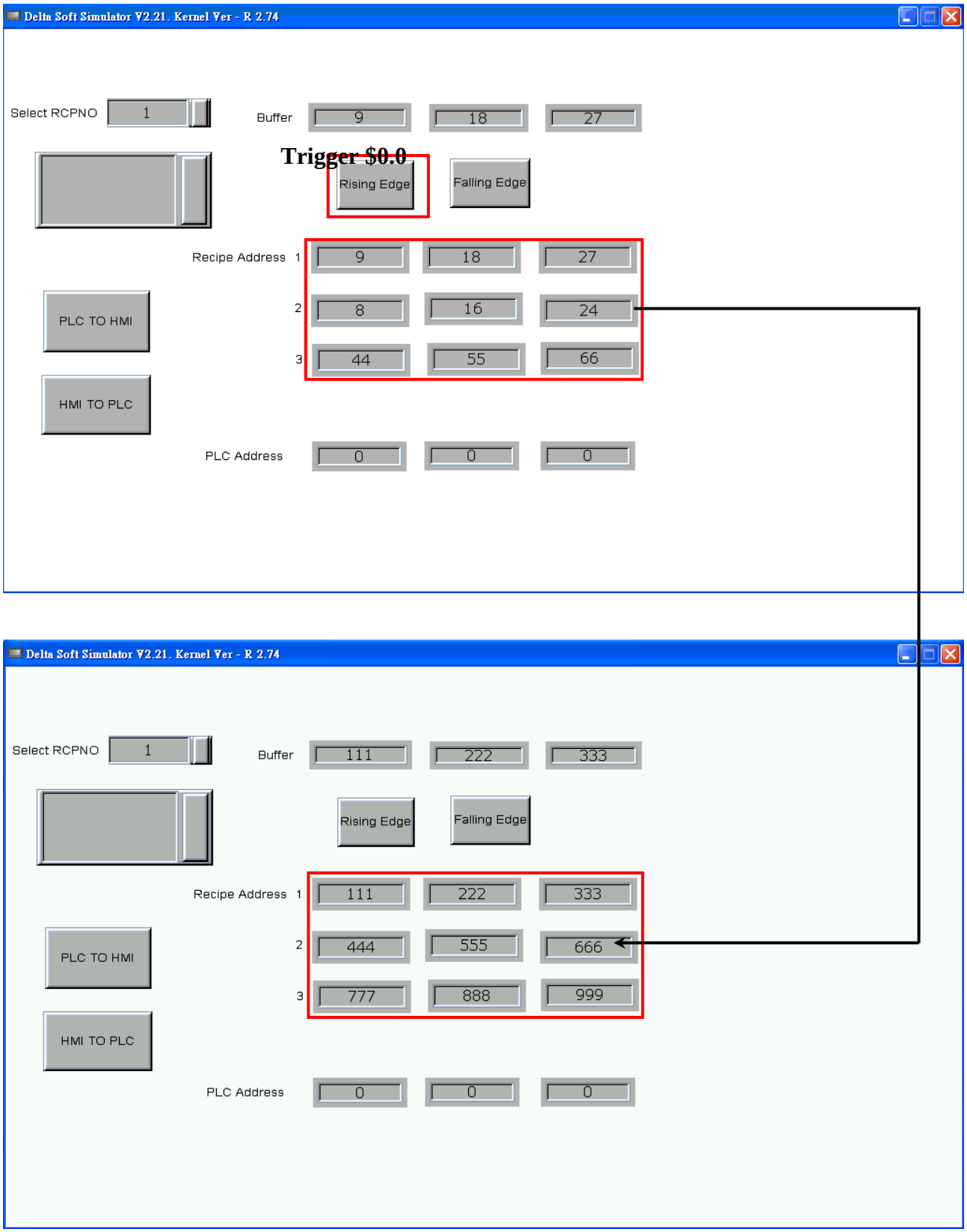
Press  icon. The following dialog box will pop-up and ask the users to enter the password.



Please enter 12345678 in the filed of the password at the first time (12345678 is the default setting value and the users can change it freely). After the correct password is entered, the  icon will display on the tool bar at the left-bottom corner.

When eServer performs reading, due to enable auto refresh on startup, eServer will auto convert recipe value to -0223.rcp recipe value without trigger $0.0, but if disable auto refresh on startup, please trigger the maintained button element on HMI. Then, the system will convert the recipe data to the data of -0223.rcp and show on HMI screen.

Please refer to the figure on next page:



On the other hand, if incorrect or invalid password is entered, the following error message dialog box will appear to alert the users.



Export - Variance

Setting :

a. Select **Variance**.

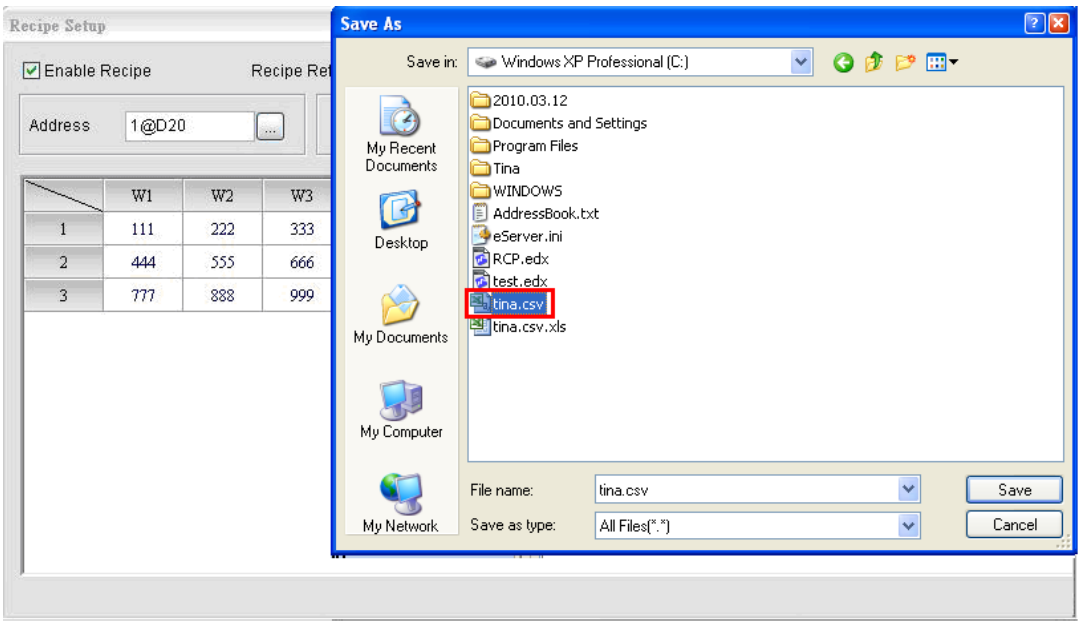
b. Check the check box to use **16-bit recipe** as the example.

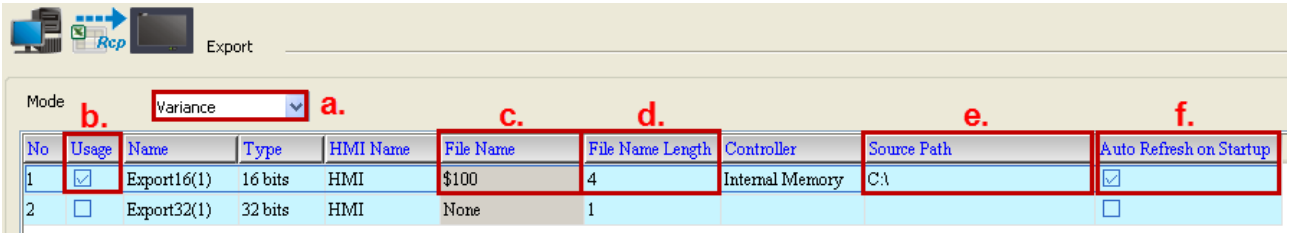
c. Set the **File Name** (file name of the imported file) to be the same as the register address of HMI. (In this case **$100** character input element is used.)

d. Set **File Name Length** (number of the imported characters). (In this case the File Name Length is set to 4. This is because the name of the exported file is **Tina.csv**. This file will be open in Screen Editor and save the value into .csv file.)

e. Set **Source Path** (destination location) where the exported file is located (Tina.csv file is saved in **C:**).

f. Enable Auto Refresh on Startup





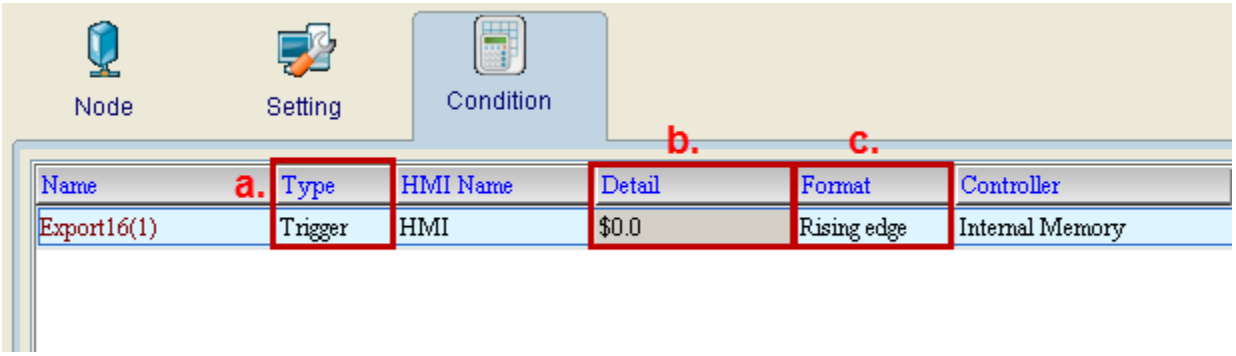
Condition :

As for the method of sampling condition, select **Trigger (Execute sampling when the trigger conditions are satisfied)**.

a. Select **Trigger**.

b. Set **Address** to the register address of the trigger element. (In this case the trigger element is a maintained button element and its address is set to **$0.0**)

c. Select **Format** as **Rising edge**.

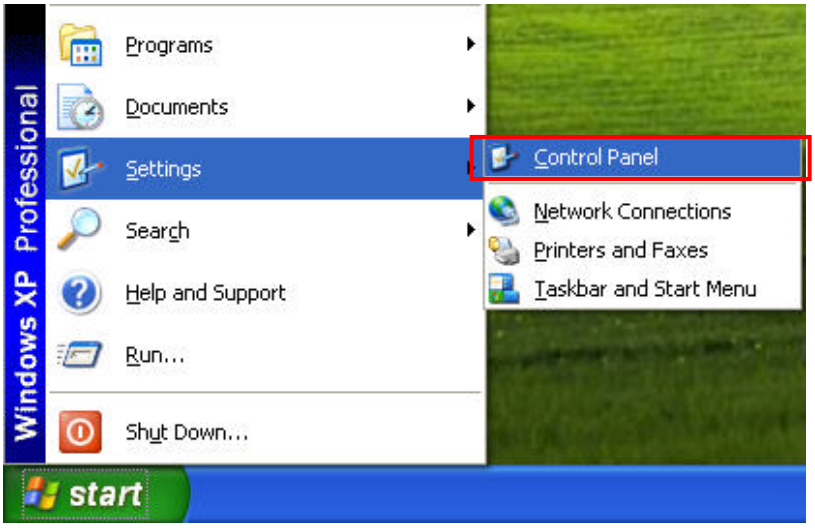


After completing all the settings, please make sure that the IP address numbers of subnet masks of the PC (172.16.190.1) and HMI (172.16.190.100) are the same; otherwise, HMI may not be displayed in the list when finding node.

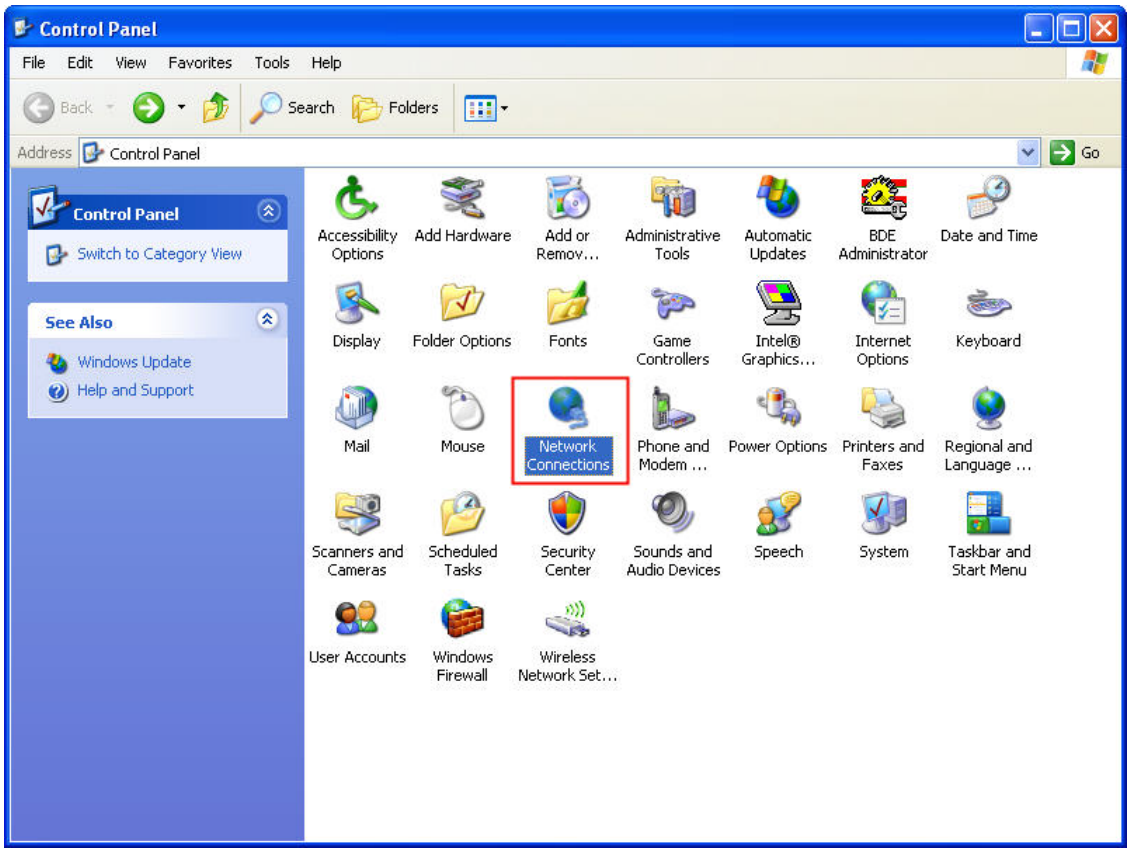
Networking Settings

Ensure to observe the following instructions to complete PC networking settings before eServer operation.

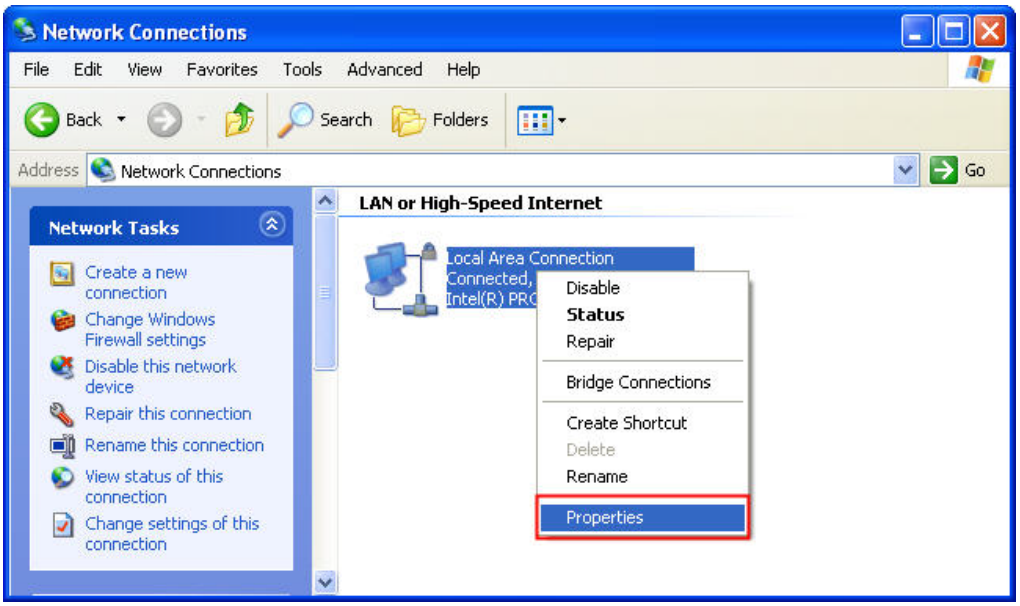
Setting PC Network



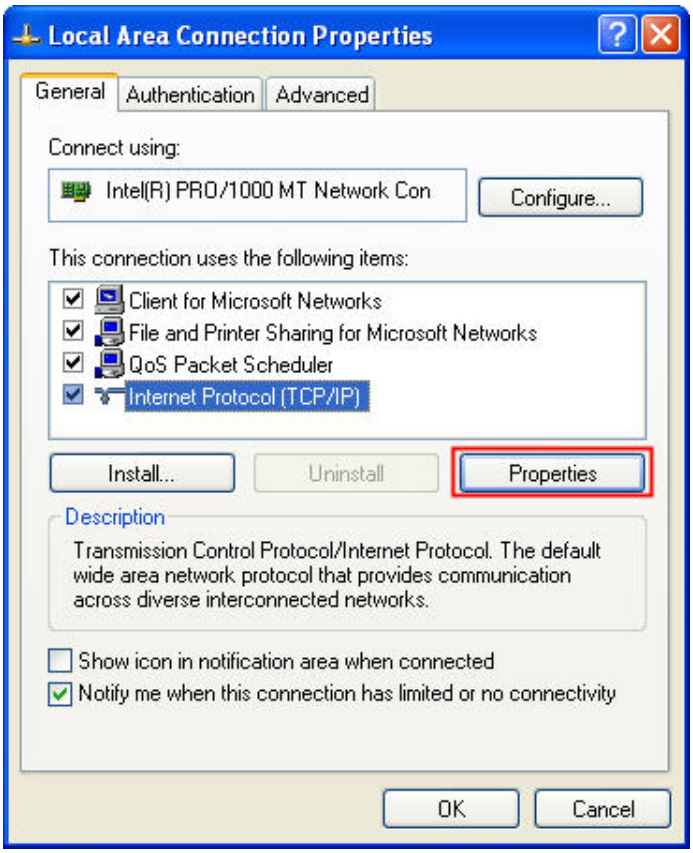
Power on PC and start Windows. Click **Start > Programs**, point to Control Panel, and then select Network Connections ().



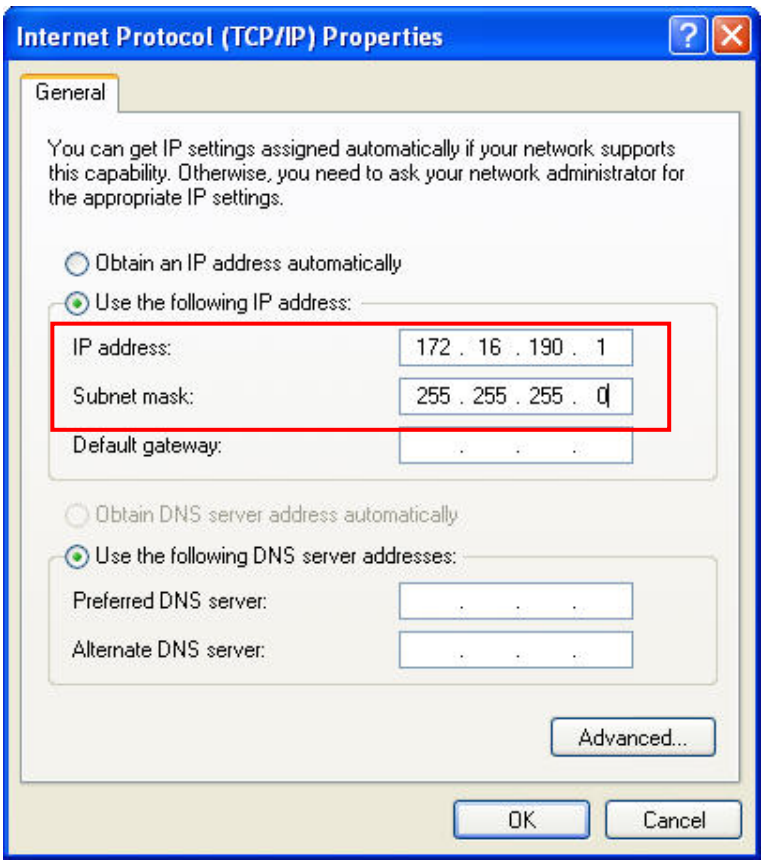
Double-click **Network Connections** icon, the following windows will appear. Right-click the **Local Area Connection** icon, and then select **Properties** from the pop-up menu.



The **Local Area Connection Properties** dialog box will open. Use **General** tab to select **Internet Protocol (TCP/IP)**. Then, press **Properties** button.



The **Internet Protocol (TCP/IP) Properties** dialog box will open. Choose **Use the following IP address** and enter the IP address numbers of the PC into the field of **IP address** and **Subnet mask**.



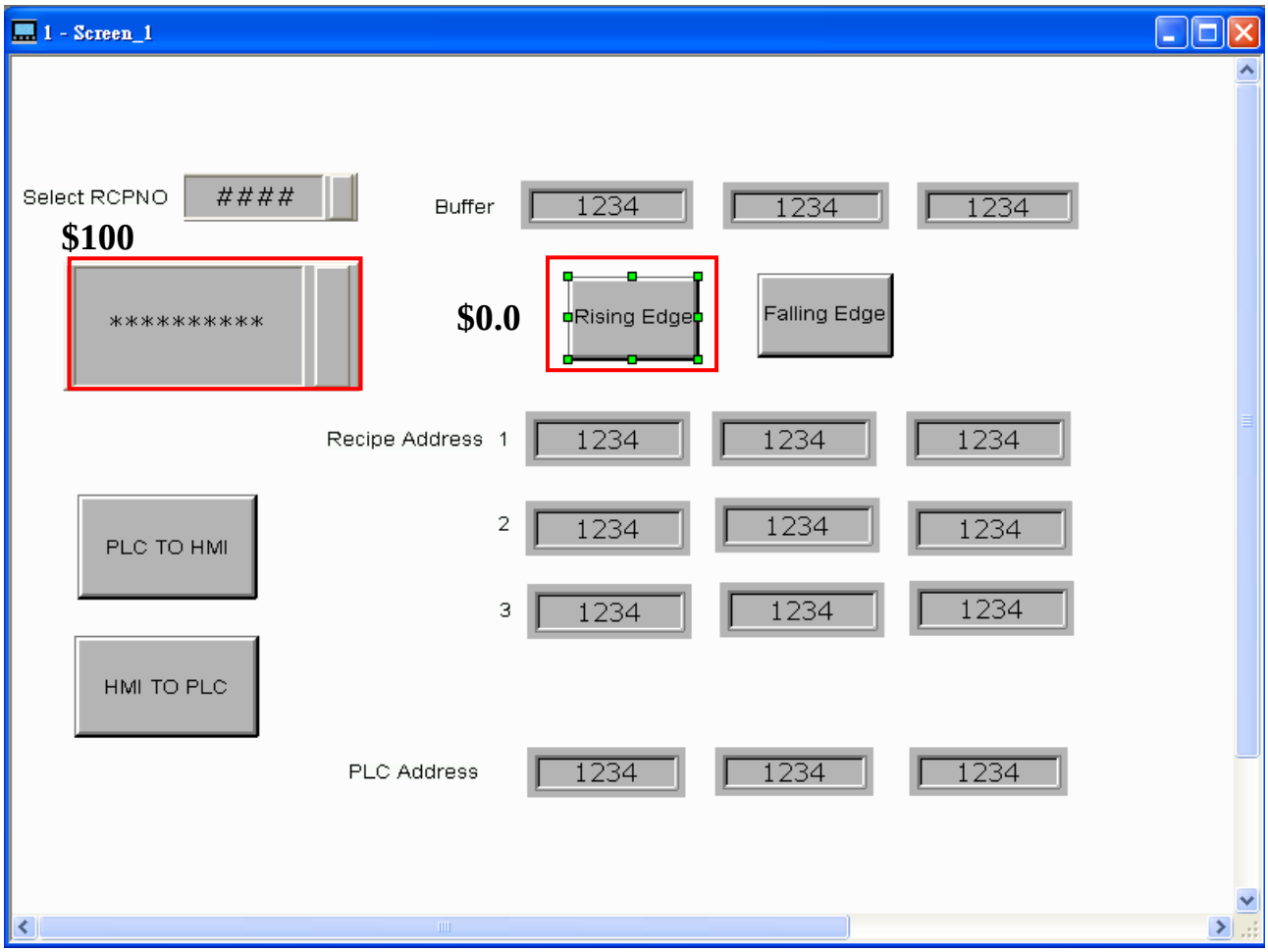
Then, press **OK** button to finish the settings.

Setting IP Address in HMI

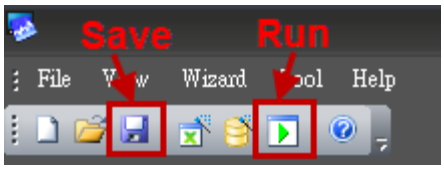
Enter into the system menu and set IP address to 172.16.190.100. Please see the figure below:



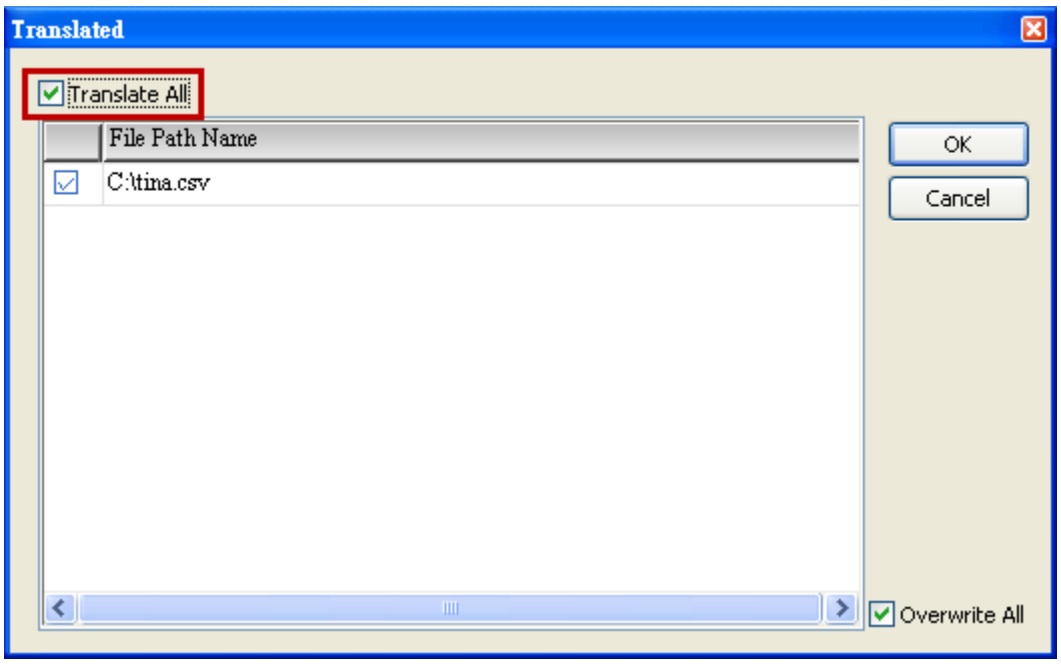
After completing all the settings and make sure that the communication is good, use the most updated DOPSoft program editing software to open the selected .dps file which just has been modified on eServer. Then, create two elements. One is a character input element and its address is set to $100. The other is a maintained button element and its address is set to $0.0. Please refer to the figure below:



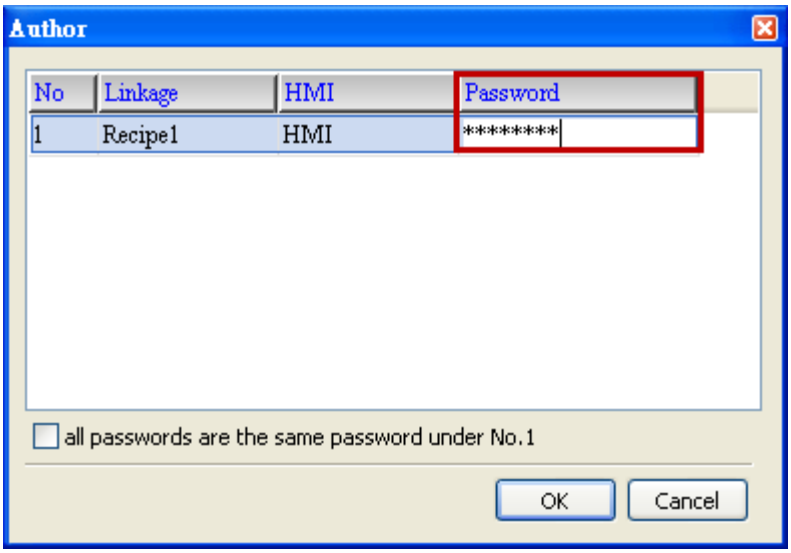
Then, compile it and download the recipe data to HMI. After recipe data is downloaded to HMI successfully, trigger the numeric input element ($100) and input TINA on HMI, then return to eServer, save the file first and then run the recipe data.



Press  icon. The following dialog box will pop-up and ask the users if it is necessary to convert the file of Tina.csv.



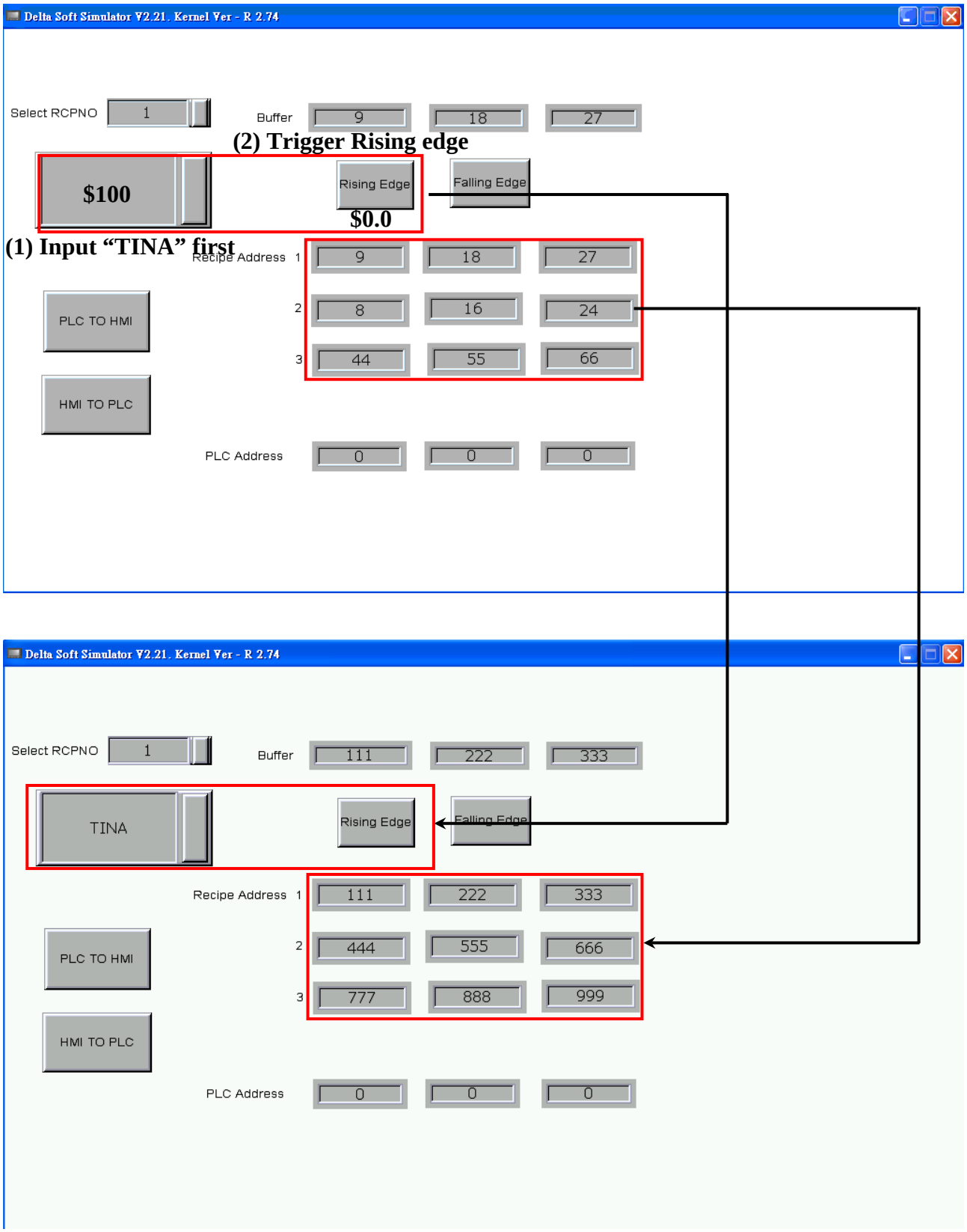
Check the box before **Translate All** and press **OK** button, the following dialog box will pop-up and ask the users to enter the password.



Please enter 12345678 in the filed of the password at the first time (12345678 is the default setting value and the users can change it freely). After the correct password is entered, the  icon will display on the tool bar at the left-bottom corner.

When eServer performs reading, due to enable auto refresh on startup, eServer will auto convert the recipe to Tina.csv recipe value, but if disable auto refresh on startup, please trigger the character input element ($100) and input TINA then trigger the maintained button element ($0.0) on HMI. Then, the system will convert the recipe data to the record data of Tina.csv file.

Please refer to the figure on next page:


Delta Soft Simulator V2.21. Kernel Ver - R 2.74
Select RCPNO
1
Buffer
9
18
27
(2) Trigger Rising edge
$100
Rising Edge
Falling Edge
$0.0
(1) Input "TINA" first
Recipe Address 1
9
18
27
2
8
16
24
3
44
55
66
PLC TO HMI
HMI TO PLC
PLC Address
0
0
0
Delta Soft Simulator V2.21. Kernel Ver - R 2.74
Select RCPNO
1
Buffer
111
222
333
TINA
Rising Edge
Falling Edge
Recipe Address 1
111
222
333
2
444
555
666
3
777
888
999
PLC TO HMI
HMI TO PLC
PLC Address
0
0
0

On the other hand, if incorrect or invalid password is entered, the following error message dialog box will appear to alert the users.

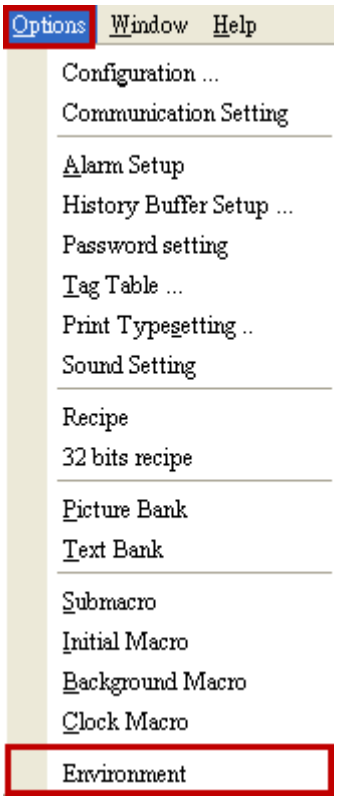


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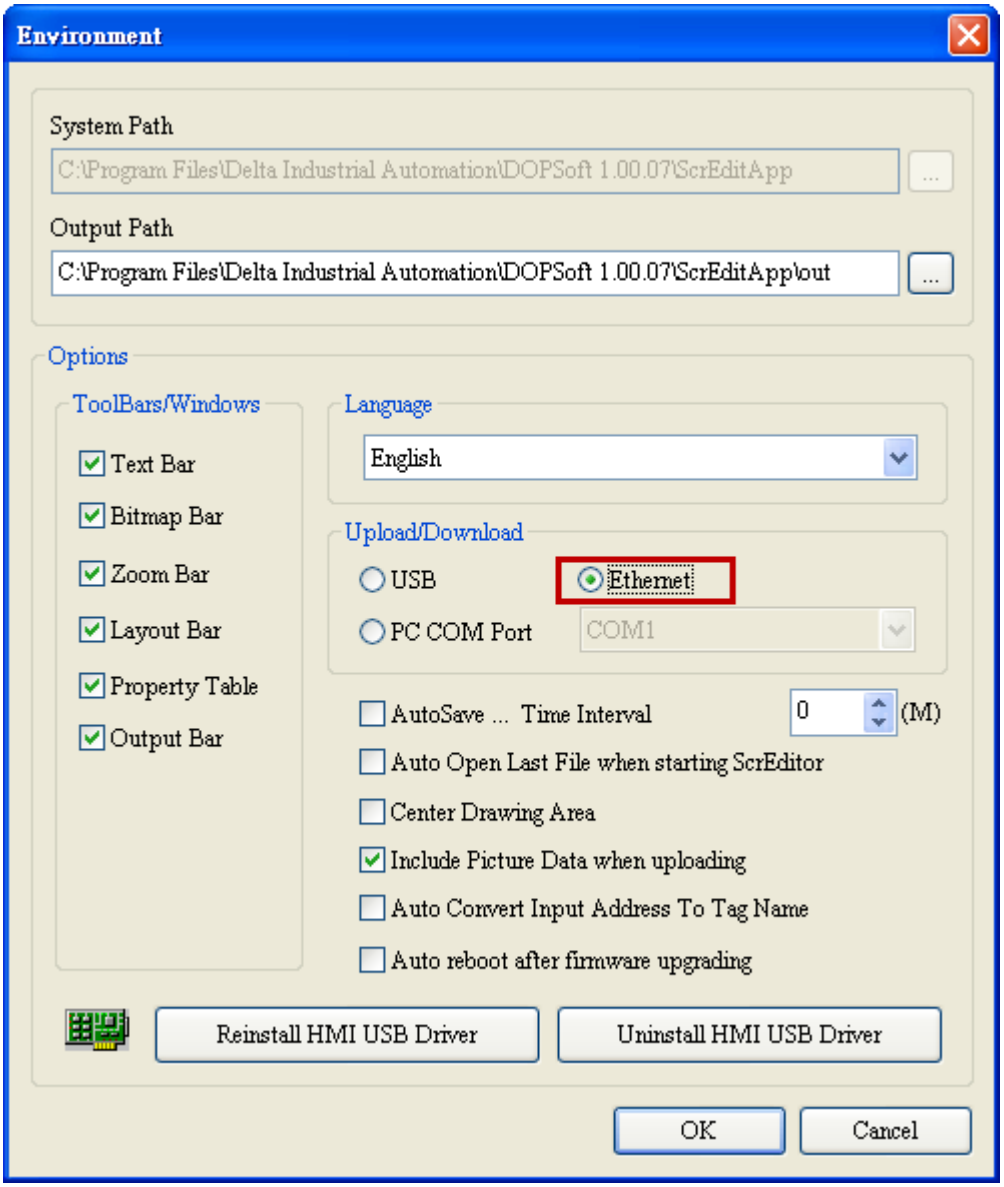
Appendix A Upload/Download via Ethernet

A.1 Environment Settings

The default setting of upload and download on DOPSoft is via **USB**. If the users need to use **Ethernet**, please activate DOPSoft and select **Options > Environment** to access the configuration options and change the upload and download setting.

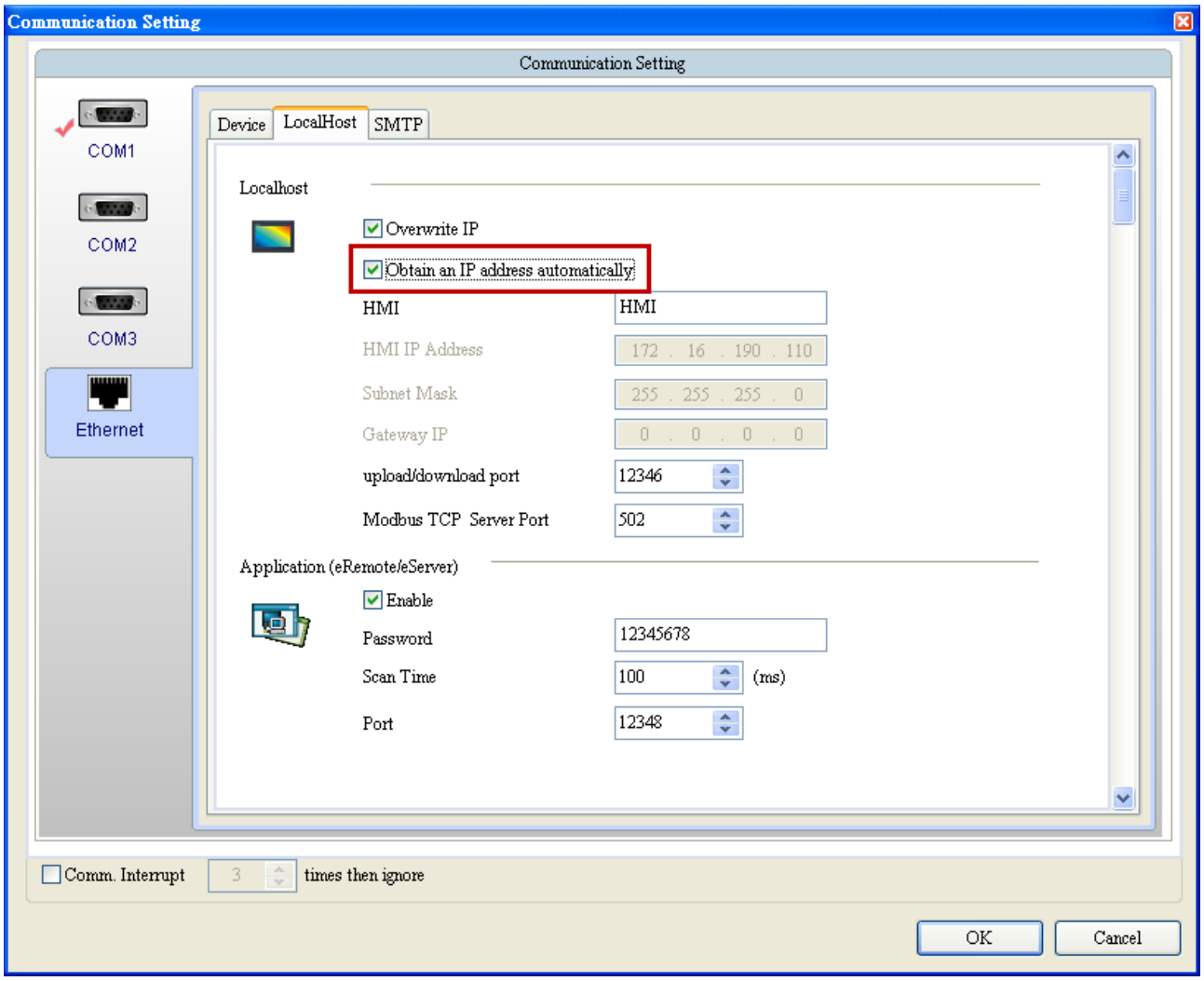


In **Environment** dialog box, change the default setting of upload and download to **Ethernet**. Then, press **OK** to complete the setting.

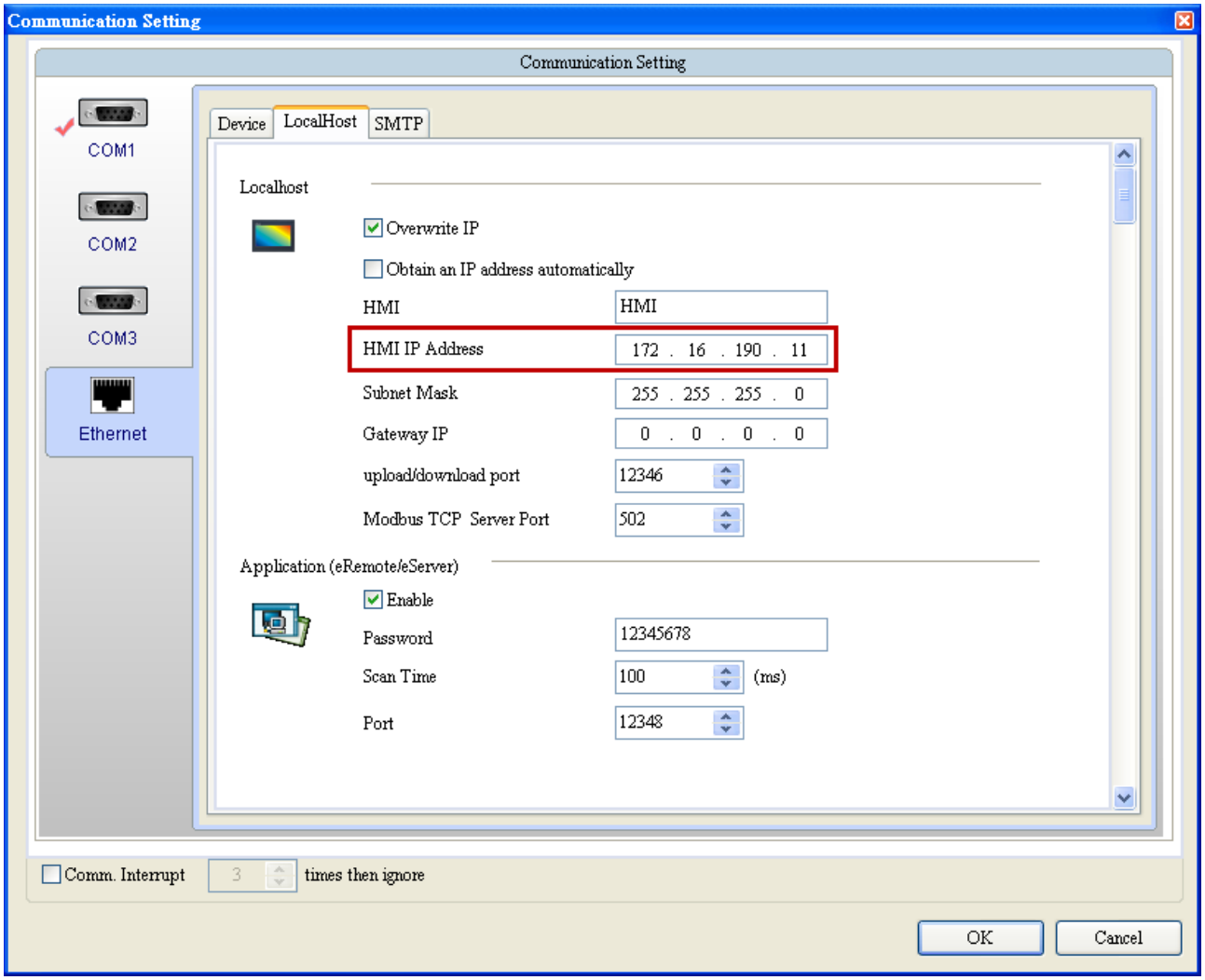


A.2 Communication Setting

If the users choose to use DHCP mode, please into **Options** > **Communication Setting** > **Ethernet** > **LocalHost** to enable **Obtain an IP address automatically**.



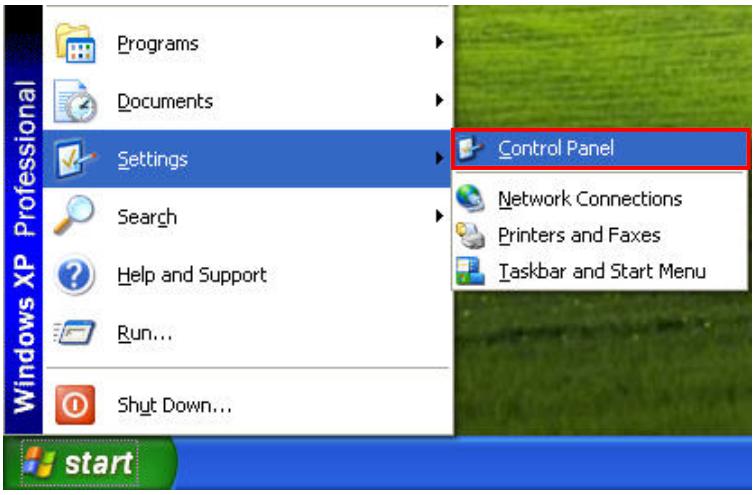
If the users choose to use user-defined IP address, please into **Options** > **Communication Settings** > **Ethernet** > **LocalHost** and set HMI IP Address then ensure that the domain name is the same as the IP address of the personal computer.



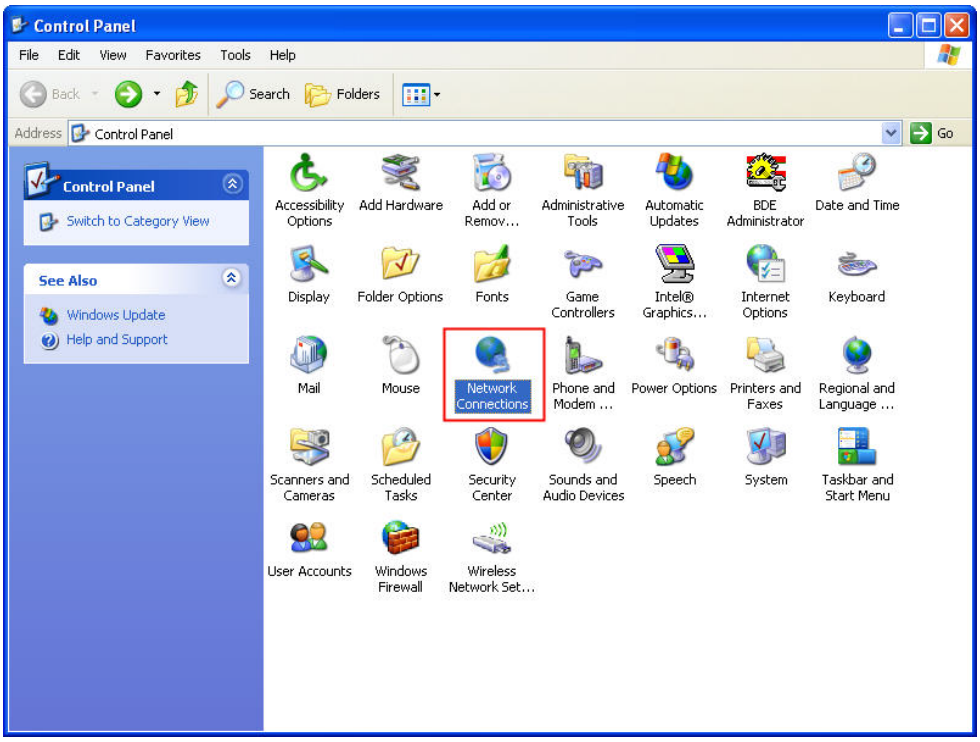
After Ethernet IP address is set, the users can enter into the system menu to verify if the IP address is written correctly or not.



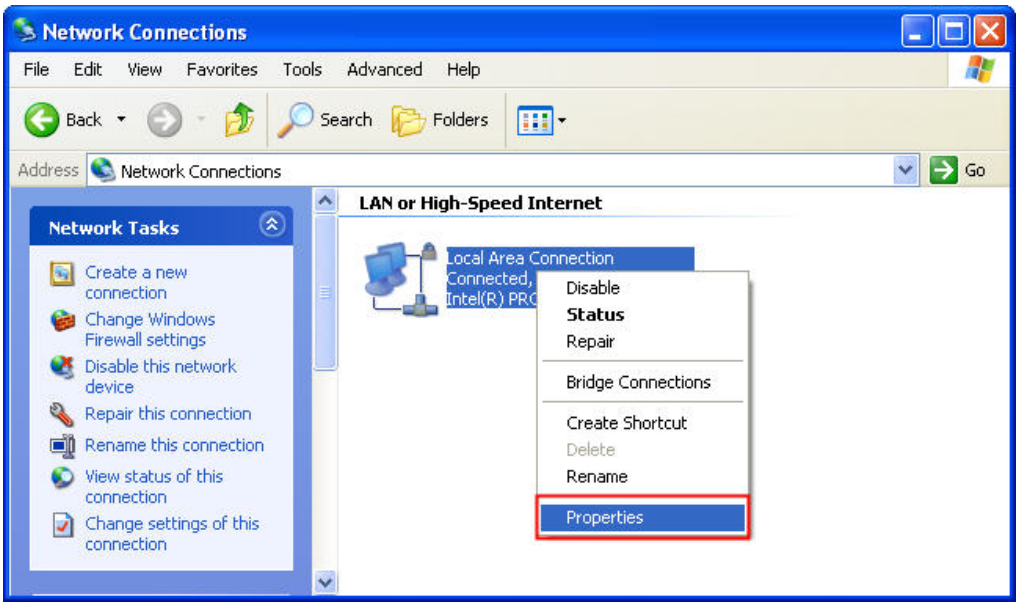
Then, observe the following instructions to complete PC networking settings.



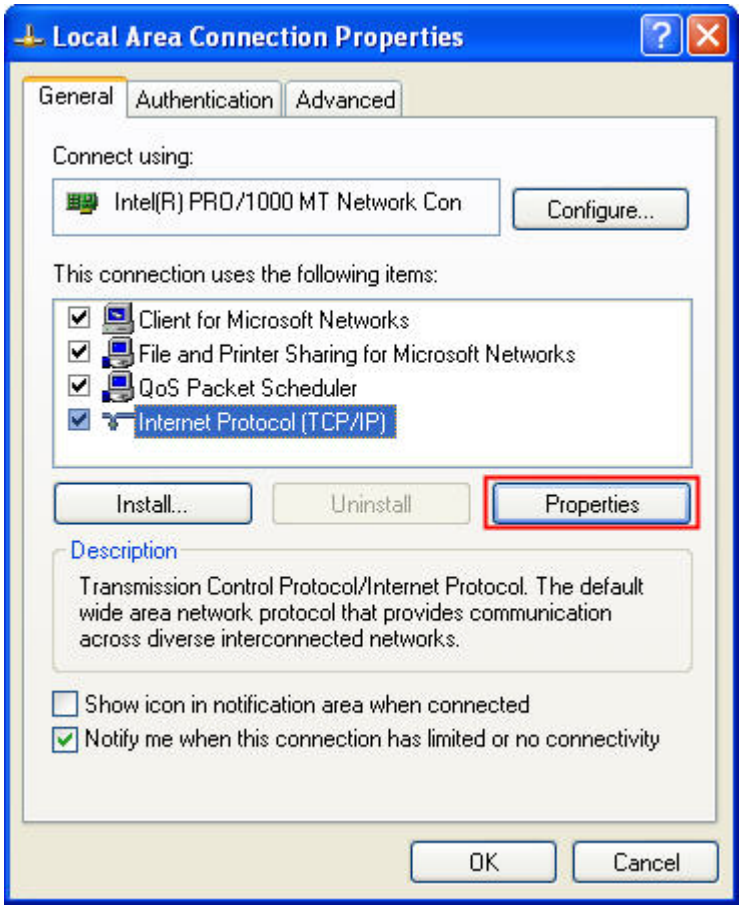
Power on PC and start Windows. Click **Start > Programs**, point to **Control Panel**, and then select **Network Connections**.


Control Panel
File Edit View Favorites Tools Help
Back Search Folders
Address Control Panel
Go
Control Panel
Switch to Category View
See Also
Windows Update
Help and Support
Accessibility Options
Add Hardware
Add or Remov...
Administrative Tools
Automatic Updates
BDE Administrator
Date and Time
Display
Folder Options
Fonts
Game Controllers
Intel® Graphics...
Internet Options
Keyboard
Mail
Mouse
Network Connections
Phone and Modem ...
Power Options
Printers and Faxes
Regional and Language ...
Scanners and Cameras
Scheduled Tasks
Security Center
Sounds and Audio Devices
Speech
System
Taskbar and Start Menu
User Accounts
Windows Firewall
Wireless Network Set...

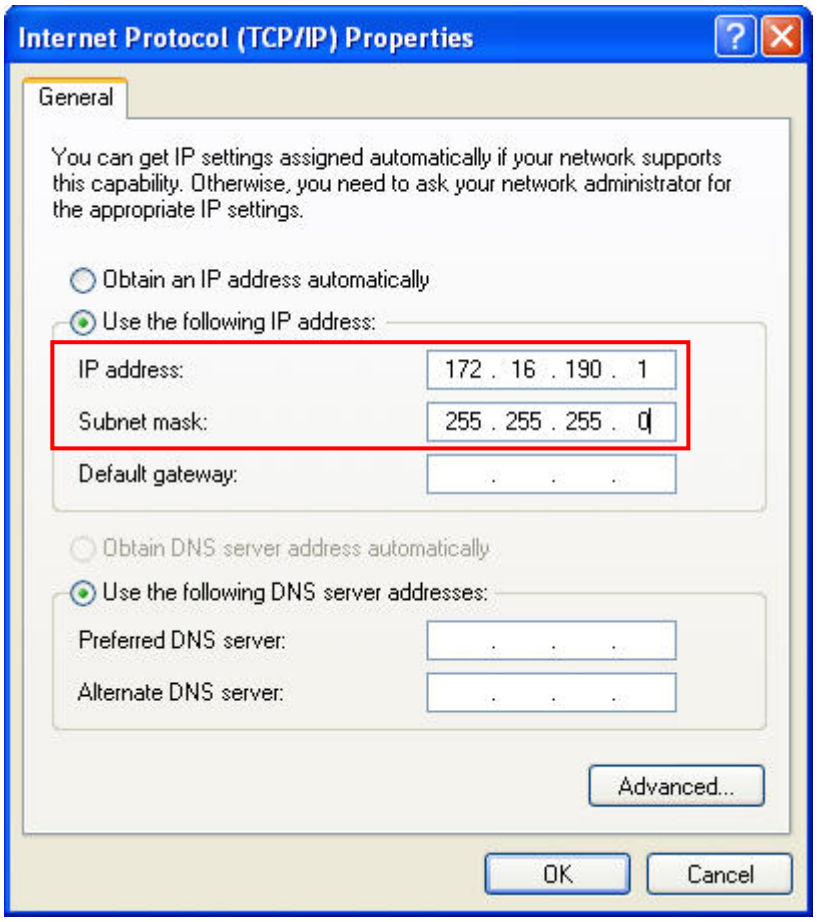
Double-click **Network Connections** icon, the following windows will appear. Right-click the **Local Area Connection** icon, and then select **Properties** from the pop-up menu.



The **Local Area Connection Properties** dialog box will open. Use **General** tab to select **Internet Protocol (TCP/IP)**. Then, press **Properties** button.



The **Internet Protocol (TCP/IP) Properties** dialog box will open. Choose **Use the following IP address** and enter the IP address numbers of the PC into the field of **IP address** and **Subnet mask**.

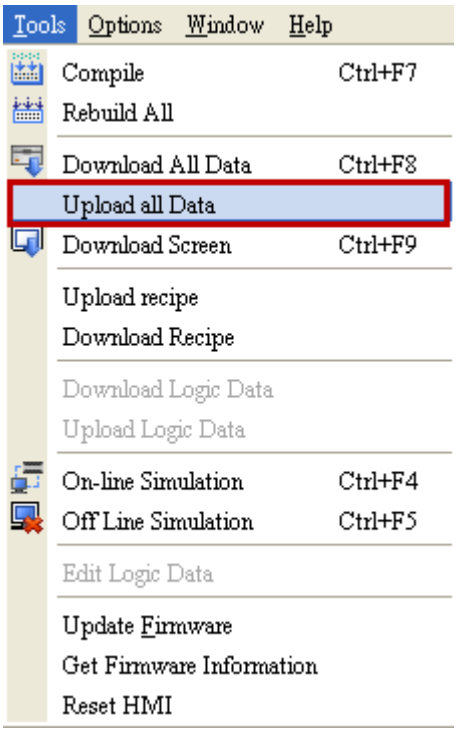


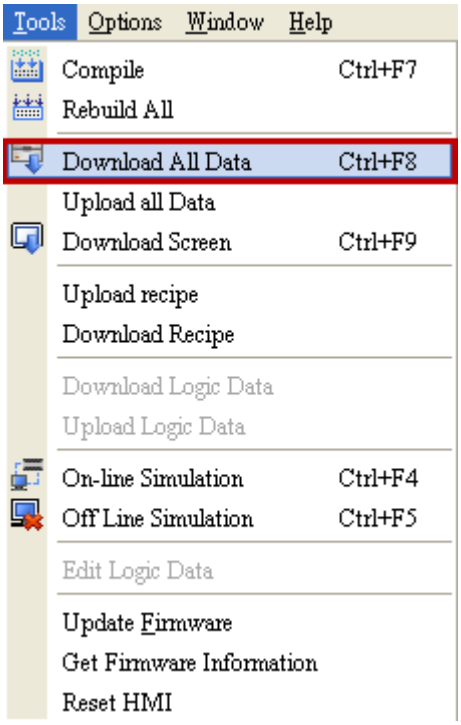
Then, press **OK** button to finish the settings.

Please note that if the IP address numbers of subnet masks of the PC and HMI are different, HMI may not be displayed in the list when finding node.

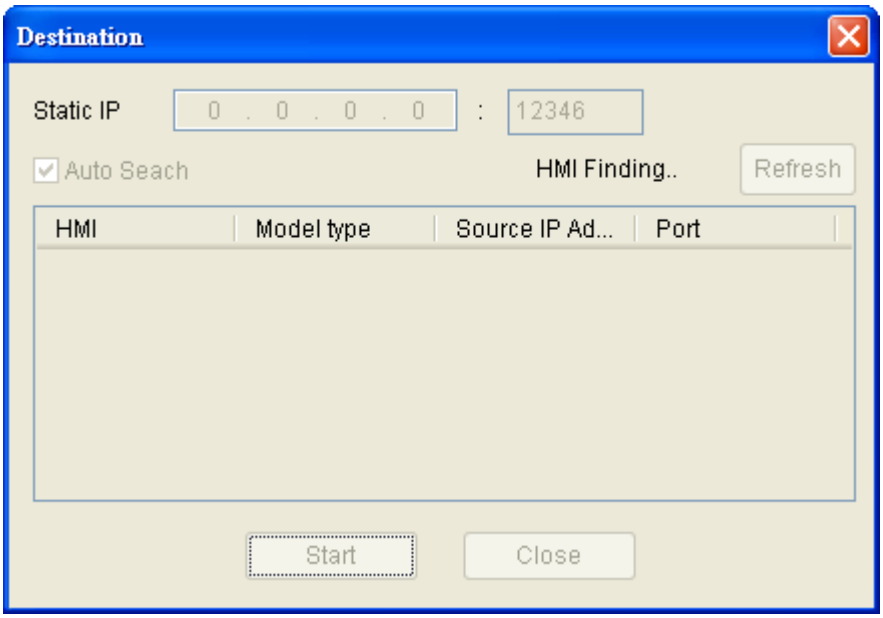
A.3 Compile and Upload / Download All Data

After completing PC networking settings, compile the editing program immediately. When compile operation is performed successfully, choose **Upload all Data** or **Download all Data** next.

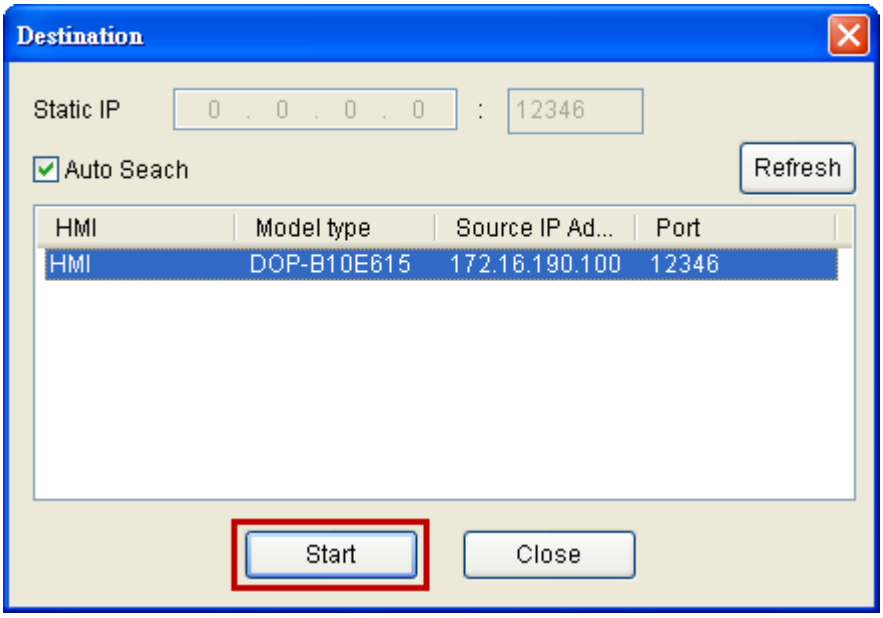




Then, the following dialog box will appear.



The users can check the box before **Auto Search**, and the system will detect the connecting HMI automatically.



When the connecting HMI is found, press Start button, and the system will start to upload or download the screen data via Ethernet immediately.